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A WEEKLY SOUTHERN INDUSTRIAL RAILROAD AND FINANCIAL NEWSPAPER.

"TOWER OF STRENGTH TO ITS SECTION."

[Cotton Ginners' Journal, of Waco, Texas.]

We made mention some three months ago of a piece of splendid enterprise undertaken by the Manufacturers' Record. Solicitous for Southern industrial development, it placed a copy of the Manufacturers' Record, for three months, in the hands of every cotton mill manager or owner in New England and the Eastern States. Each issue (it is a weekly) presented in an intelligent way the peculiar advantages offered in the South for the establishment and operation of cotton mills. The work was done quietly but efficiently, and, we may add, unselfishly. The seed thus sown have not fallen in barren ground. All over the South there is evident interest manifested in cotton mills, and we note from Southern papers that many sections have either been visited by Eastern men, investigating local conditions, with a view to mill investments, or the papers tell of letters of inquiry and correspondence going on about mill enterprises. In some instances local committees have been formed to confer with New England mill owners, and in others home capital will try it alone. We are glad to believe that very much of this is the legitimate outcome of the efforts of the Manufacturers' Record. It may be that the fruits of this effort will be slow in maturing, but we cannot doubt but that the good effects will be realized. A publication that devotes its energies along such lines is a tower of strength to its section and people.

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VOL. XXXIII
No. 24.

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Baltimore, July 8, 1898.

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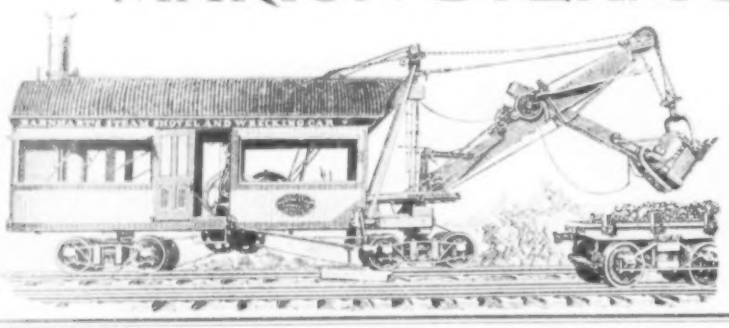

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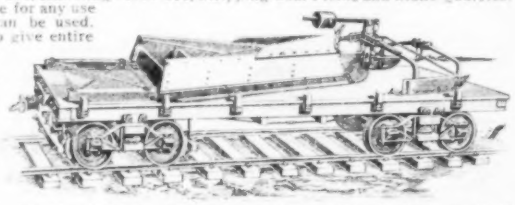

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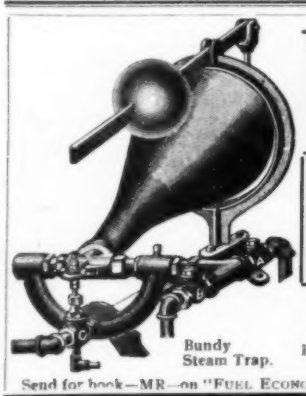

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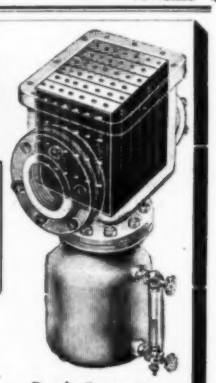

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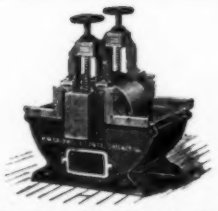

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Westinghouse Elec. & Mfg. Co., Pittsburg, Pa.

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Janney & Steinmetz, Philadelphia, Pa.
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The Means & Fulton Iron Works, Birmingham, Ala.
York Mfg. Co., York, Pa.
Broomell, Schmidt & Co., Ltd., York, Pa.
Alabama Bridge & Boil. Co., Birmingham, Ala.
Lombard Iron Wks. & Sup. Co., Augusta, Ga.
Pittsburg Locomotive Wks., Pittsburg, Pa.
Birmingham Boiler Wks., Birmingham, Ala.
Tudor Boiler Mfg. Co., Cincinnati, O.
Valk & Murdoch Iron Wks., Charleston, S.C.

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The Rawson Electric Co., Elyria, O.

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C. M. Gilbert & Co., Savannah, Ga.

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Pomona Terra Cotta Co., Pomona, N. C.
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J. A. Gowdey & Son, Providence, R. I.
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American Supply Co., Providence, R. I.
Draper Co., Hopedale, Mass.
Whitinsville Spin. Ring Co., Whitins'e, Mass.
Mason Machine Works, Taunton, Mass.
Charlotte Machine Co., Charlotte, N. C.
Kilburn, Lincoln & Co., Fall River, Mass.
Providence Machine Co., Providence, R. I.
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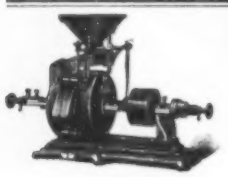

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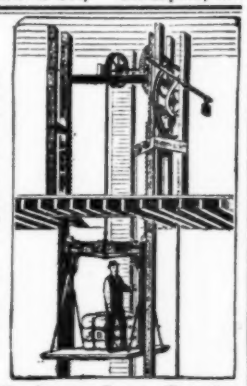

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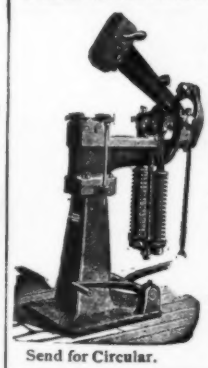

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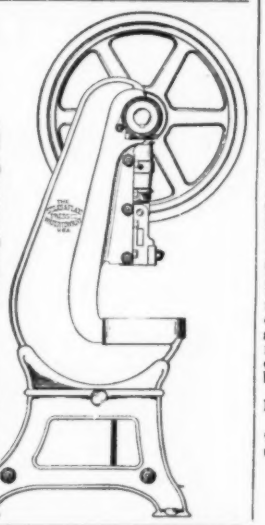

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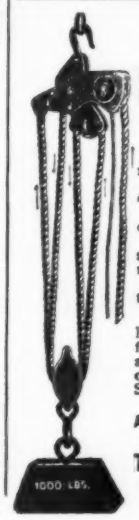

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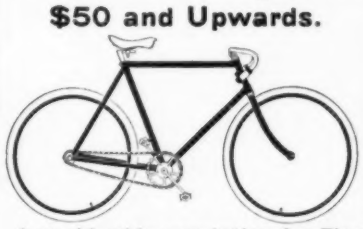

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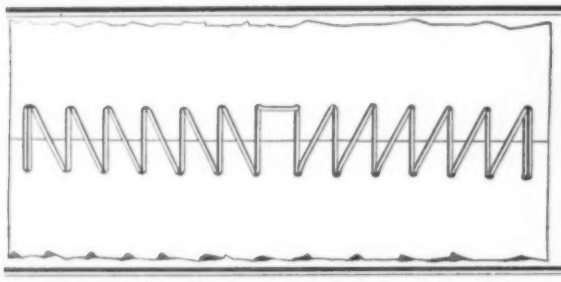

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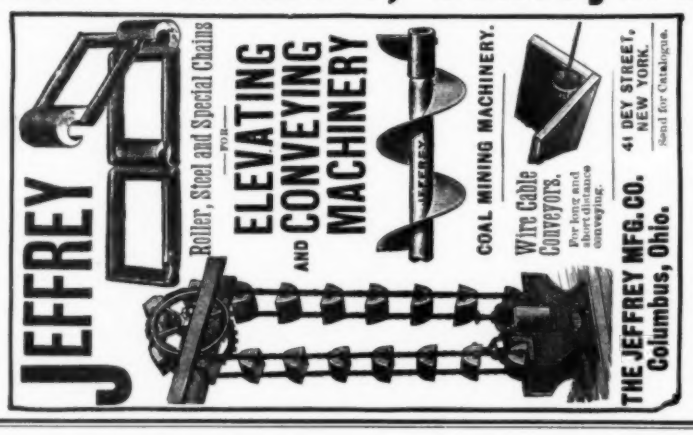

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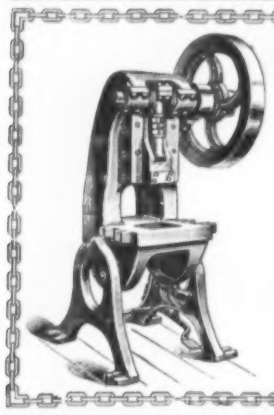

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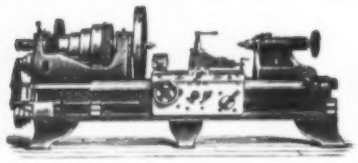

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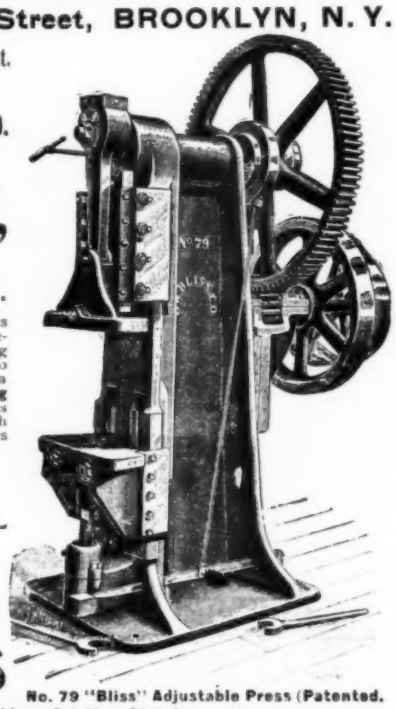

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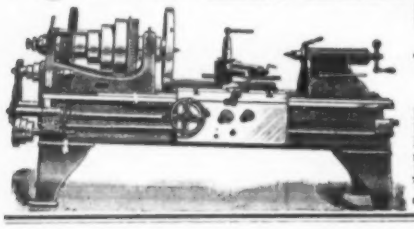

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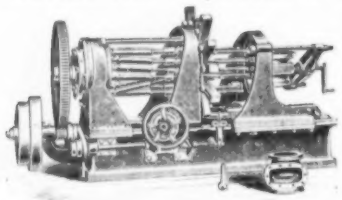

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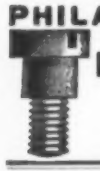

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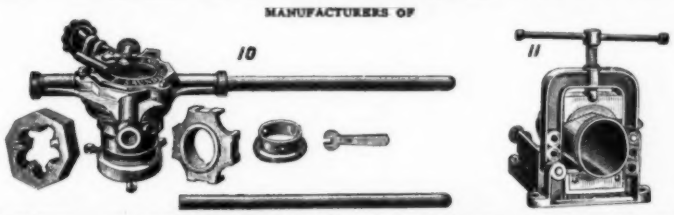

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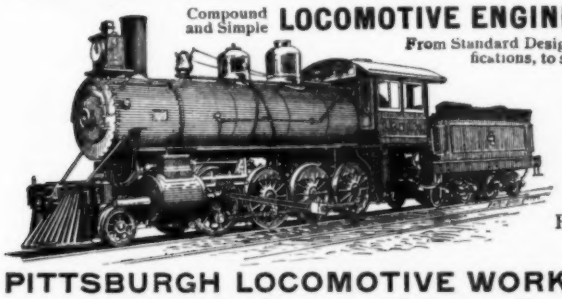

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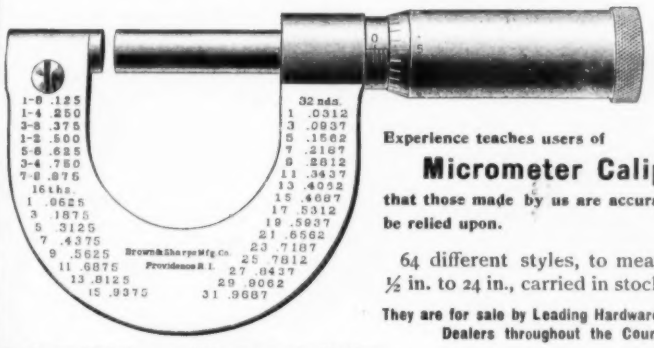

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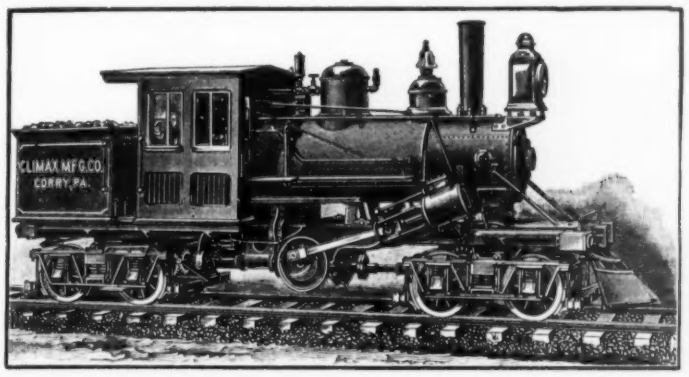

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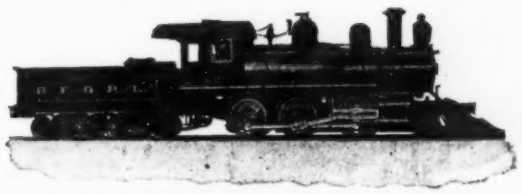

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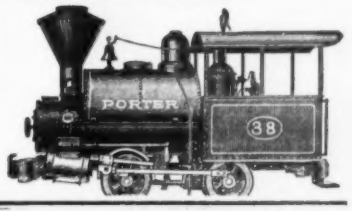

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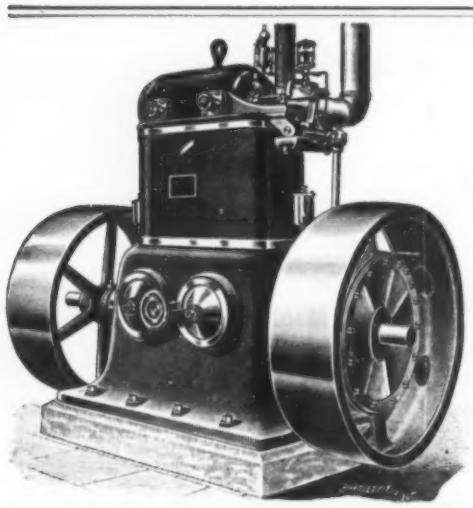

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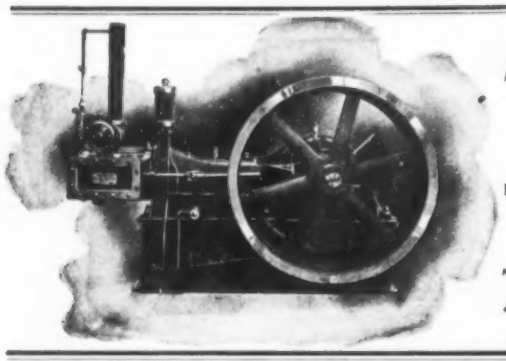

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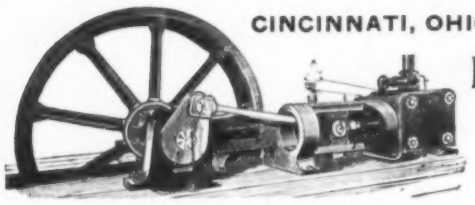

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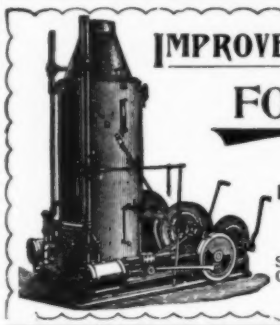

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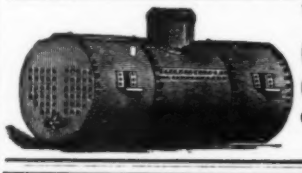

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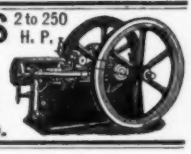

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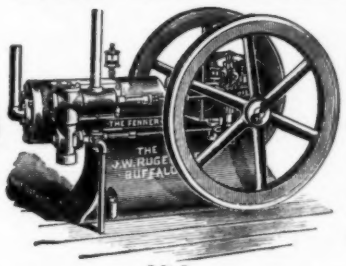

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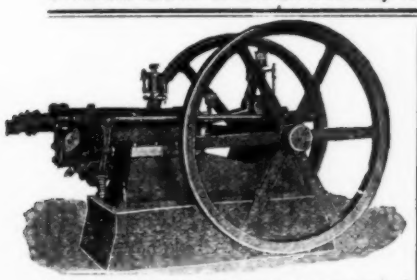

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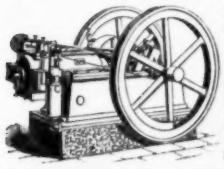

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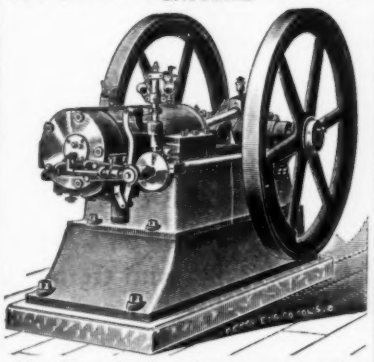

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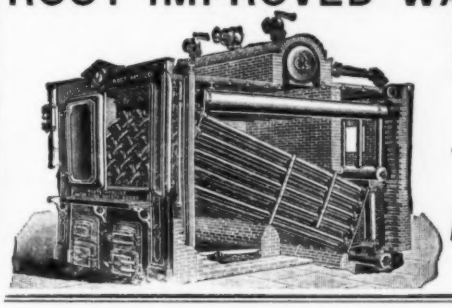

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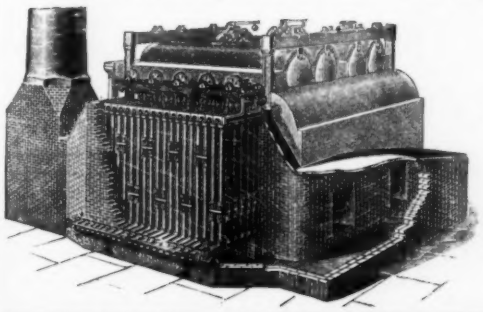

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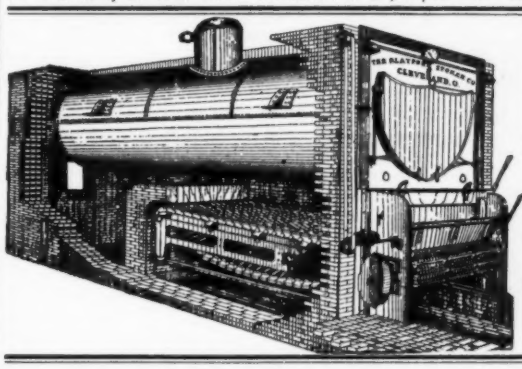

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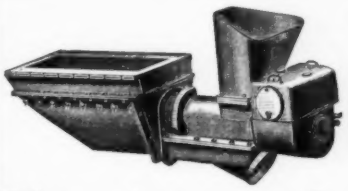

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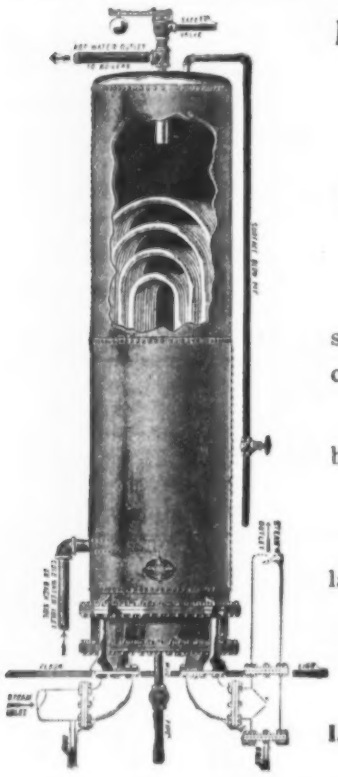

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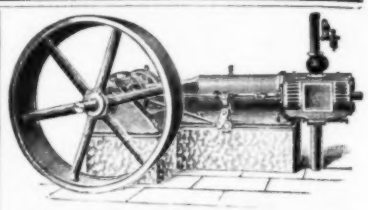

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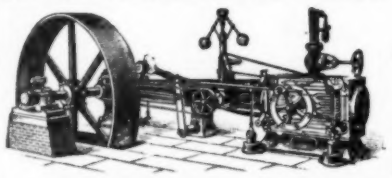

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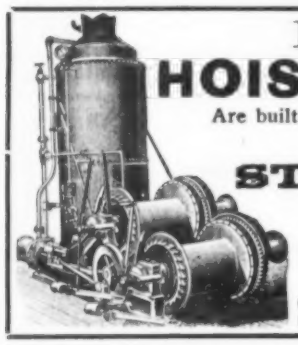

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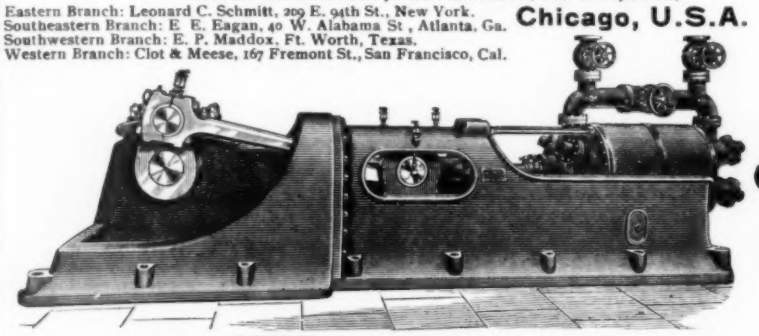

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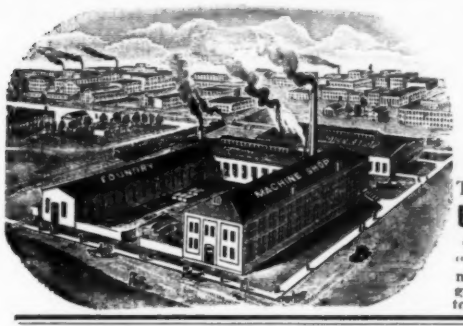

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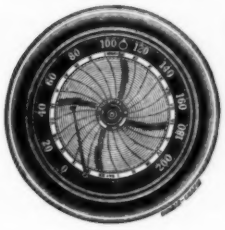

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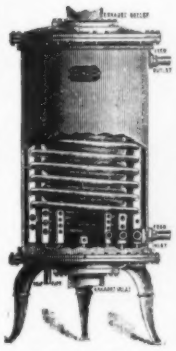

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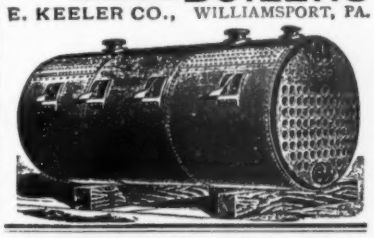

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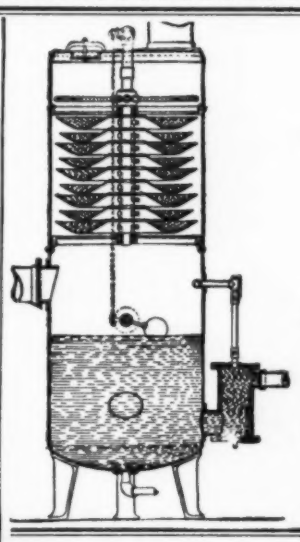

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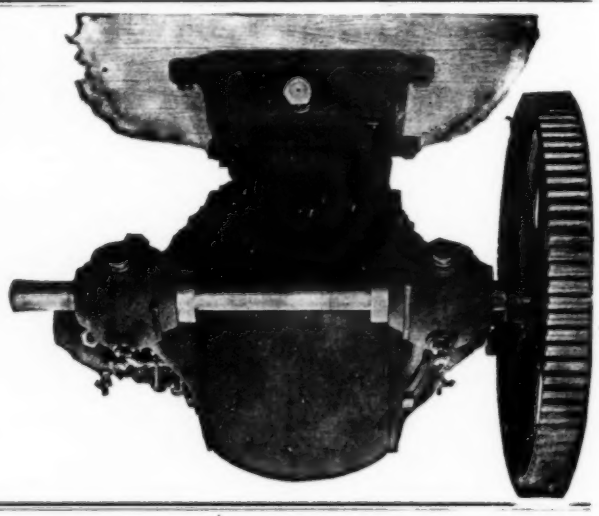

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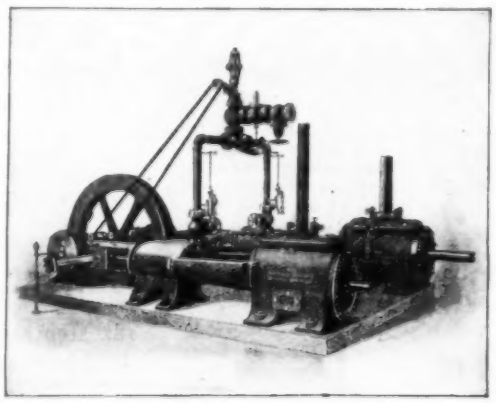

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In this number of the Manufacturers' Record is an interesting paper written by Gen. Bradley T. Johnson on the outlook for enterprises in Cuba upon cessation of hostilities. Gen. Bradley T. Johnson, who served with gallantry in the Confederate Army, from Maryland, and who since the war has attained distinction at the bar and in literature, went to Cuba some months ago on a special journalistic mission and had opportunity for close observation of the natural resources of the country, of the extent to which they had developed and of the opportunities for further exploitation. In his paper he sketches rapidly the mineral and agricultural riches of the island, and points out the lines for remunerative undertakings hereafter. The paper is an interesting and valuable contribution to the literature of the subject.

Phosphates of Tennessee.

At the recent industrial convention at Nashville much stress was laid upon the fact that the health of agriculture is largely dependent upon the development of the industries of a community. It seems that Tennessee has a remarkable resource which is destined to be the basis, as an industry, for the strengthening of agriculture in two directions—increasing the markets for farmers and enhancing the fertility of the land. Reference is had, of course, to the phosphate deposits of the State. One of the leading promoters of the industrial convention and an earnest and persistent advocate of the doctrine of the interdependence of agriculture and manufactures is Col. J. B. Killebrew, of Nashville. He thoroughly appreciates the possibilities that lie in the phosphates and is eminently qualified to view them from all points of advantage to his State and the South. He holds that the deposits are practically illimitable and exhaustless, and that they must play an important part in the development of the State, not only in relation to the mining industry, but also in its ultimate effects upon agriculture, inasmuch as wherever cheap fertilizers are obtained, if markets for farm products are accessible, agriculture flourishes. Consequently, widespread interest will be had in a series of papers on the subject by Colonel Killebrew which is begun in this week's Manufacturers' Record. These papers will cover all phases of the subject and will be a valuable addition to the literature of Southern enterprise and progress.

Southern Textile Schools.

The Georgia School of Technology will have its textile department. At the last session of the legislature an appropriation was made of $10,000 for the purpose, to be available as soon as $10,000 in money and machinery had been raised. At the recent closing exercises of the school President Lyman Hall announced that the necessary money and machinery had been acquired, and that all that was necessary now was the formality of securing the $10,000 appropriation. It is proposed to teach in the department the manufacture of cotton goods from the time the raw material leaves the field to the finished products of the looms.

For some time persons interested in the textile development of the South have urged the necessity of technical education in that line, so that in future the mills might have native superintendents as well as native labor. Out of this agitation have grown the textile department for the Georgia Technological School, the textile school at Clemson College, both of which may now be regarded as facts, the unsuccessful attempt to provide such an establishment in Mississippi last winter and the movement, still in embryo, to add a textile department to the Agricultural and Chemical College in North Carolina. The latter is still a strong possibility, while it is not without possibility that a few years may see something of the same thing in Mississippi.

There are those who doubt the necessity or advisability of more than one first-class textile school in the South. The establishment of a textile school in both Georgia and South Carolina will be the means of demonstrating the correctness or fallacy of such a position. If there is the basis for the support of only one, only one will survive, and that one the school which shall give the best training. If time demonstrates that more than one is needed, the first two to be established will reap the benefits of having been early in the field. At any rate, the South is to be congratulated upon the two undertakings which will start almost contemporaneously.

North Carolina Resources.

One of the best pieces of work now under way for the future development of a Southern State is under the auspices of the North Carolina Geological Survey. Within the last few months the survey has published several bulletins, notable among which are three treating of gold mining, timber trees and forestry, and clay deposits and clay industry, respectively, in North Carolina. The first paper is by Mr. H. B. C. Nitze and Mr. H. A. J. Wilkens, in which no attempt has been made to describe all the mines or even to present detailed descriptions of all the more important mining regions found in North Carolina and adjacent States, but only such mining and metallurgical methods practiced in North Carolina and other States are described as it is believed will be found useful in the study of the best methods for the development of the North Carolina gold fields. The point is made that one of the existing needs of the North Carolina gold field is the establishment at central points in this region of practical plants that will successfully treat the low-grade sulphurate ores; plants that will do custom work at reasonable prices and where individual miners can ship their ore and pay for same according to its value, as is the case in the great mining regions of the West. The work on clay deposits and the clay industry is a preliminary report by Mr. Heinrich Ries. The investigation was undertaken to determine the extent, qualities and applicability of the clays occurring within the State, and whether those deposits now being utilized could be used for making other or better products than those that are now being manufactured from them. The forestry bulletin is by Gifford Pinchot and W. W. Ashe. This is intended to present a succinct statement of certain salient characteristics of the more important trees of North Carolina, than which the forest flora of no other State is more varied. To this is added a short account of the various forest regions of the State. An attractive and valuable feature of these bulletins is the half-tone engravings of maps of machinery and of specimen woods. These are very profuse and are a great addition to the text. The publications are invaluable to persons contemplating investment in the industries represented in North Carolina and should be the means for attracting productive capital to the Old North State.

For Home Insurance.

Under a special act passed by the twenty-fourth legislature the Texas Mutual Life Insurance Co. was incorporated for the purpose of encouraging the organization of home companies in order that at least a part of the capital annually sent out of the State might be retained and invested in Texas. The prospectus of the company says:

> Texas is so far removed from the great money centers that it is practically a country within itself. This being the case, let us see what a few other peoples, similarly situated, are doing. The little island of New Zealand, with a population not one-third as great as that of Texas, has a company whose assets exceed $10,000,000. Instead of sending their life insurance premiums and accumulations to Australia or to England, they are, to this extent at least, retained permanently at home. The reserve, surplus, dividends, death claims, interest, taxes, commissions and expenses circulate and recirculate at home, to the benefit of every business on the island. Australia proper, with a population but little greater than that of Texas, has home companies whose assets exceed $100,000,000. In our own country some Western States have broken away from the apron-strings of Eastern corporations. Kansas and Nebraska and Iowa and Indiana and California and Michigan each have a successful company, while Ohio's home company has assets of more than $18,000,000, and Wisconsin's home company has more than $100,000,000.

Commenting upon this, the Alcalde, of Austin, says that in 1897 Texas paid $3,650,780 in life insurance premiums, every dollar of which left the State; that there had been in the past valid reasons for this lamentable economic condition, but that the recent legislation makes the security of the insured as unquestionable as it is possible to be with any company and the investment of the company's funds as secure as in the East. The development of this new enterprise in Texas will be watched with interest by everyone who believes that it is possible to organize home insurance companies in the South upon a stable and remunerative basis. It is only necessary to observe facts about the accumulation of wealth through life insurance to understand how beneficial a successful company may be to a State. The Massachusetts Bureau of Statistics of Labor, through Horace G. Wadley and its chief, has recently issued a bulletin dealing with the growth and investments of life insurance corporations. The Financial Chronicle, commenting upon this report and calling attention to the changes in the forms of policies, says that life insurance is a form of co-operative saving, a conservator of independence and a protection against property in case of death or advancing age. It quotes the figures for New York from 1872 to 1897. In 1872 the policies in force amounted to $2,114,742,591 and the gross assets to $335,168,542. In 1897 the policies in force amounted to $5,255,725,545 and the gross assets to $1,334,051,334. These figures indicate the accumulation of wealth through the agency of insurance companies.

How much the South has contributed to these accumulations and to others in the North would be difficult to estimate, but it is a fact beyond dispute that the South sends annually millions of dollars to outside insurance companies in the payments on policies, comparatively little of which returns in the form of permanent investments. The establishment of home companies in Southern States will tend to keep the money in those sections where it is most needed. What has been done in New Zealand, in Michigan or Ohio can certainly be done in Texas and many another Southern State, provided every safeguard is had in organization and operation of the companies.

Mississippi's Legislators.

Ever since the adjournment of the last legislature in Mississippi the friends in that State of the Industrial Institute and College at Columbus, the institution which has been such a factor in the industrial education of the young women of Mississippi and other States, have been active in efforts to overcome the tangle in which the affairs of the institution were left. After much discussion and suggestion of various plans there seems to be a good prospect of continuing the great work

of the school. The experience has been valuable in many respects, but in no wise more so than in the good spirit displayed by the members of the legislature. When at one time it was thought that an extra session of that body would be needed to keep open the doors of the school, a movement was started to make the proposed extra session as little burdensome as possible upon the taxpayers. A suggestion was made that the members of the legislature should serve without pay beyond their actual traveling expenses and their board while in session. Immediately the officers and members of the legislature began to tender their services upon this basis in letters of patriotic and liberal tone. The Jackson Clarion-Ledger, which started the movement, published a number of the letters of legislators. Their general character may be understood from the perusal of an extract from a letter of Senator W. H. Hardy, chairman of the finance committee. He wrote:

The members of the legislature, almost to a man, in my opinion would cheerfully give their services fourteen days in July, free of charge, to save the Industrial Institute and College to the noble young women of our State and to save the State from the humiliation and shame that would be visited upon her by its suspension until 1900. Then the State owes some consideration to the generous public-spirited people of the beautiful city of Columbus, who, out of their private means, donated so much to this institution, to which the State has been and is the beneficiary. To allow it to suspend is to inflict an irreparable wrong upon several hundred young ladies who will not be able to attend other colleges to complete their education so auspiciously begun in this, to say nothing of still other hundreds who are preparing themselves in the public schools of the State to enter this school.

It is greatly to be hoped that the school may continue in its good work, and it may be suggested that an appropriate addition to its next annual report would be a reproduction of the letters of the members of the legislature, showing their practical and friendly interest in the success of an institution which was a pioneer in this country and which has wrought incalculable good.

The South and Hawaii.

Senator McEnery or any other senator who bases his opposition to Hawaiian annexation upon the theory that annexation will injure the South, ought to ponder upon the words of the Chicago Times-Herald in its discussion of the commercial interests involved. It says:

When the trade possibilities for Southern producers which will be opened up by cutting the Nicaragua canal and by the annexation of Hawaii are given adequate consideration it would seem the most natural thing in the world for the Southern senators and representatives to present a solid front in support of these great national projects. It would also be the most natural thing in the world for New England to oppose these undertakings, for their completion must inevitably menace the commercial supremacy of the East. The possession of Hawaii would mean the early completion of the Nicaragua canal, which would bring the coal, iron and cotton of the South within reaching distance of the great markets of the world and would eliminate the middlemen of the North and East. With the road to Asia opened up and maintained under American control the granaries of the West would find a market for their output without going to New York or to any Atlantic port. San Francisco and Portland, Ore., would become the great shipping ports for the products of the West and middle West, while the completion of the canal across the isthmus would open up an era of unexampled industrial prosperity for the South. The development of the South can only come through closer and easier access to the markets of the world. The great field for future commercial conquest is the Orient. The nations of Europe are making plans upon a scale of unprecedented vastness to capture a portion of the trade that will be opened by the advance of civilization in China and Japan. With a coaling base at Hawaii and the ship canal completed the South and the West will be in a position to dominate the commercial highway to Asia and the Orient. Southern senators who stand in the way of these great projects are enemies of Southern and Western progress.

The Times-Herald uses plain language, but it is not unjustifiable. Such language is needed when a Southern senator in 1898 employs the fears of 1884 in an attempt to overcome the inevitable, and in doing so supplies material to be used against the South by its competitors working upon ignorance or misapprehension.

A Healthy Sentiment.

As illustrative of the change of sentiment which is taking place in the South toward corporate undertakings, an editorial under the caption "Railroads Are Not Enemies" in the Brandon (Miss.) News is interesting. The News says:

The old feeling that "anything you can get out of a railroad company is so much gain" is dying out, and people are learning that the railroads are the best friends any community can have. In years gone by it has been the custom to bring suit against the railroad company on every occasion where a suit would stand, no matter how trivial the amount involved, and it is an old saying that "no jury ever returned a verdict in favor of the company." It is hard to convince the average jury that there is any merit in any defense a corporation may present, and because of this well-known and well-grounded feeling it has been the policy of the railroads to compromise every action possible.

It is not the purpose of these lines to take up the cause of the railroads as against the people, only so far as justice and mutual interest goes, but the News believes that the change of sentiment which is rapidly coming, giving the railroads the same consideration and the same chance that is accorded private individuals, will be beneficial to the people and to the country, as well as to the corporations.

No community can thrive without railroad facilities, and the greater these facilities the better the opportunities for thrift. Every town may be benefited by cultivating the acquaintance of the railroad people and getting them interested in the local progress. This is not a difficult matter, for the railroad men know that whatever goes to build up the towns on their lines helps their company also, and in nearly every instance are ready and willing to do more than their share in co-operation with the people. They should be known personally by the business men of the different towns, for a personal acquaintance has much to do with fostering good feeling. The ambition of the towns in the way of public improvements should be made known to them, and in nine cases out of ten the railroads will aid and encourage the people. In short, the railroads and the communities should get closer together, and work for mutual good rather than along the old lines of antagonism.

For some time the progressive men of the South have been sowing the seed which this editorial in the News shows has fallen upon good soil. The attitude in some sections of the South toward corporations in general, and railroad corporations in particular, has been a decided drawback upon the development of that section, but if signs do not fail, a revolution is taking place in this particular, and it has been given a decided impulse by the recent conventions held in Georgia, Tennessee and Kentucky, which not only have been the centers for the crystallization of a healthy sentiment, but the basis for a diffusion of it in greater power. It is among the agricultural classes of the South largely that the old prejudices still linger. The agitation of the subject upon such reasonable and convincing lines as that laid down by the Brandon News cannot fail to have a decided effect upon the elements which will be most benefited by the extension of the railway systems in the South.

CUBA'S WEALTH TO BE EXPANDED.

Opportunities for Enterprise When the Island Is Under Stable Government.

By Gen. Bradley T. Johnson.

The Manufacturers' Record requests me to say something of the opportunities and advantages which Cuba with an orderly and just government will offer to American capital, energy, intelligence and enterprise. It is a subject worth considering, and it will be very advantageous to the United States and to Cuba that a clear understanding of the conditions be arrived at.

Cuba lies across the mouth of the Gulf of Mexico. It is 760 miles long, and in breadth is from 20 to 135 miles. It is long, narrow and slightly curved, its convex side being toward the north. It is 130 miles from Florida, as which it is geographically and geologically the same construction and an equal distance from Yucatan. By it, therefore, passes all the water-borne commerce of the valley of the Mississippi, from the Alleghanies to the Rockies, and from Minnesota to the Gulf, and by it will pass all the commerce of Asia when the isthmian canal is constructed, as it will be in a few years. The harbor of Havana is the finest on the American hemisphere. It can accommodate 1000 ships.

The population of Havana is 300,000; of the island 1,600,000, of which 1,110,000 are pure white and 520,316 colored, meaning blacks, mulattoes, Indians, Chinese and mixed blood.

The total exports of Cuba amount to $90,000,000, a year, of which we take $75,000,000.

Our exports to Cuba consist of bread and meat, machinery and manufactures of iron, amounting to $24,157,698 in 1893. There are 1000 miles of railroad connecting Havana with the other cities and most cultivated plantations. The war has destroyed the trade temporarily.

War has existed in Cuba since 1868, with a semi-truce from 1878 to 1895. The island has been ravaged from end to end; plantations have been destroyed and buildings burned by both sides.

The country houses in Cuba are some of them grand palaces. One of them which I visited covered probably ten to fifteen acres of ground. Around it was a wall twelve feet high, fifteen feet through the base and eight feet on the parapet. It was a fortification and could be held against everything except heavy artillery. "La Guinta Delicia de Platino," near Havana, is much finer than Buckingham Palace or anything I saw in England. When I was there it was garrisoned by 500 infantry and a light battery of twenty-seven 10-pounders. The guns were posted en barbette on the roof and wall and commanded a wide plain, over which the commanding officer told me "the rebels might charge any morning—a rush of 1000 yards—so he kept on the alert."

This description of country houses shows why the Cubans destroy them. They furnish refuge and depots for the Spaniards who cannot sleep in the open and dare not venture far from their supplies. Gomez's policy is that of William of Orange against these same Spaniards. He cut the dykes of Holland and destroyed the country to get rid of the Duke of Alva and his barbarians.

The Cubans now tell you, "We will make the country a desert, but we will have the sky and the soil left. We can reconstruct our homes; we cannot live in the same one as the Spaniards." I know gentlemen who were sick, who have been reduced to poverty by the distribution of the estates by the rebels, but I have never known one to complain or who did not rejoice that he could thus contribute to the final success of the cause.

The fortunes in Cuba were a surprise to me. I had no idea that such great estates existed. The Grand Central St. Lucia at Gibara is 100 miles square—not 100 square miles, but 100 miles square. It fronts on the coast, and has its port Gibara some 300 miles west of Havana. It used to produce 80,000 hogsheads of sugar, which it shipped by its own vessels from Gibara to New York; employed usually 3000 people, doubled during sugar grinding, and coined its own money of silver and copper. I never saw any of its gold coinage. But when I was there it kept about $40,000 in circulation, which it redeemed in gold by keeping a reserve in New York, from which it was constantly supplied. That currency, therefore, is always at par with gold and keeps circulating. I asked, Why coin metal? Why not use paper? It is cheaper, more convenient and more profitable to you. The answer was, "Our people won't use paper. We only coin money to keep them from being cheated by the Spanish currency, which is constantly vacillating, and we supply our own people with our own coin, which is of full weight and value and redeemable in gold. It makes them better satisfied, and our profit comes from their contentment." Which I thought pretty fair political economy from an ignorant "Cubian." I have not noticed that such ideas have attained much, either in Pennsylvania or Massachusetts.

On a great plantation which I visited near Havana they were grinding. The owner told me his plant cost him $940,000. There was a complete outfit for the manufacture of sugar, grinding and boiling, with a chemical laboratory and an electrical plant for lights, for in the busy season everybody works twenty-four hours a day. There was a portable tramway, which was laid down through the canefields; on it were trucks with iron cars, in which the green cane was loaded; then a train of these trucks was hauled by electricity to the house, where a big crane clamped a whole carload and swung it on to a sliding crane, which carried the crane to the mill. The juice ran into the boiler, and the cane into the furnace, which supplied the power for the steam and electricity. Then the tramway was taken up and laid down over another part of the field, and so on. The superintendent of the sugar-house told me he got $6000 in gold as salary per annum, and paid American mechanics, carpenters, blacksmiths, masons, etc., $8 per diem in gold. He had one month's vacation in the year to visit home.

I estimated the value of American property in the island in 1896, when I was there, at $50,000,000. I believe all the moveable part is destroyed now, but the Americans own immense tracts of agricultural and mineral lands. The Steelton Company, of Baltimore, I believe, owns a great mine of manganese near Santiago de Cuba, the scene of military operations at this time.

While great losses have been inflicted on the great proprietors, it is incredible how much they have saved and laid aside in New York, in London and in Paris, but not in Spain. The experience of their neighbors in San Domingo appears to

have made a profound impression on them. Since 1825 Cuba has been in a condition of combustion. Since 1850, when the abolition agitation in the United States gave them warning, curiously enough they have acted with infinitely more discretion, intelligence and energy than the great slaveholders of the South. They deliberately prepared for the cataclysm, which they had sagacity to see was approaching, but which we did not. They brought in Spanish colonists, mainly from the Canary Islands, apportioned them 40 or 80-acre farms, built houses, sold them stock and fed them. The colonist cultivated the land under the direction of the proprietor, and hauled his cane to the sugar-house, where he got his due share of sugar. Under this system the production of sugar increased 50 per cent. between 1878, when slavery was abolished, and 1888, and will increase still more when peace is restored. Now, after this long introduction, to the point as to the advantages offered to energy, intelligence, industry. I put aside the question of annexation. A large per cent. of Cubans in the field will oppose it; that is human nature. After such a struggle they want to enjoy the fruits of victory. Gomez wants to be president, Garcia to succeed him, etc.

But the forces of nature, the laws of society, march with an irresistible power, which laws and constitutions are powerless to withstand. I understand now, as I never did in 1861-65, that the watershed of the Mississippi, inhabited by a homogeneous race, must be under our system of government. I thought then, as I think now, it would have been better for human progress—better for the happiness of the North American people—if the Gulf States had been allowed "to go in peace," for I believed the attraction of political cohesion would have reconstructed the Union by the reunion of the valley of the Mississippi, and the great strain on the theory and practice of a government by consent would have been spared. We do not yet know how it will result. The march of imperialism from Appomattox has not yet been stayed, but I can see movement of the imperial democracy manifest toward the Antilles. Cuba is a part of the United States as surely as Florida was—as the mouth of the Mississippi was. The United States are bound to establish solid, orderly government there, and must occupy the country until such government is established. The interregnum of military government will fill the island with American adventurers, just as Texas and California were filled up.

The 1000 miles of railroad will be expanded to 10,000 miles, for each great plantation will have its own system of railroads. Telephones will net the country. From my office in Baltimore (when I am there) I can talk to every village in Maryland. In two years the population of Cuba will double. Its area is about equal to that of Pennsylvania. The yellow fever will be abolished. The great mountain ranges will be cleared and cultivated. Silver, gold and iron will be dug out of them; mahogany, rosewood—the most valuable timber in the world—will be rushed into Baltimore, and the epoch of the Argonauts in 1849 will be repeated.

I have answered your question when I tell you that a fair mechanic can earn $8 per day, and will be able to do so for years after this mine of agricultural, mineral and forest wealth is open to the energy, enterprise and industry of the free Americans.

The output of ore in the Joplin, Mo., district for week ended July 2 was, zinc, 9,122,720 pounds; lead, 981,510 pounds.

THE PHOSPHATE DEPOSITS OF TENNESSEE.

FIRST PAPER—THE SUB-DEVONIAN PHOSPHATES.

By J. B. Killebrew, A. M., Ph. D.

The announcement in the Nashville papers during the summer of 1893 that a large stratified deposit of the phosphate of lime had been discovered in some of the western counties of middle Tennessee was generally discredited by practical geologists for the reason that no such beds had ever been found in any other quarter of the globe. Probably no more remarkable discovery was ever made in the mineral kingdom. The beds first discovered lie in Hickman and Lewis counties, with the largest development on Swan and Indian creeks. There are also deposits of workable thickness on Simmon's branch and Blue Buck creek and other smaller streams in Hickman county.

Latterly much thicker beds were found near Mount Pleasant, in Maury county, which belong to the lower silurian formation. A description of those beds will be reserved for a separate paper. Another deposit of an entirely different type, white and pinkish in color, and very hard and flint-like, is found in the Mississippi formation, otherwise called the sub-carboniferous, in Perry county, which county lies west of Hickman, and is bounded on the west by the Tennessee river. A description of this type will occupy a separate paper.

The beds in Hickman county appertain to the sub-devonian age, and are fully 200 feet in measured strata higher than the beds at Mount Pleasant. The two deposits belong to totally different geological ages, but in both localities these deposits have marked advantages over any other phosphate beds in the world, so far as is known, for the economical production of bone phosphate. Each deposit has advantages which the other has not. The working of the two contemporaneously will be a benefit to both, for, as will be seen, the mixture of the two classes of rock increases the value of both. The Hickman county phosphate has less phosphoric acid, but it has also less alumina and iron, both of which are objectionable. The result of a mixture is to have a product high in phosphoric acid and low in noxious ingredients.

Hickman county, in which the largest amount of phosphate rock occurs, is about fifty miles southwest of Nashville. The surface of this country forms a part of an ancient plateau, where in ages gone by the sub-carboniferous rocks formed the comparatively level surface. Through the agencies of frost, atmospheric action, water and abrasion, this region of country has been profoundly eroded and carved into deep ravines and waterways, separated by narrow, winding ridges. This erosive action has exposed the beds of all rocks from the upper silicious rocks of the sub-carboniferous or Mississippi formation through the Devonian to some of the middle beds of the Nashville rocks of the lower silurian. The upper silurian rocks in many places are wanting, but the Niagara rocks of that age are found in the western and southern parts of the county, where the erosion has been deep enough to expose their proper horizon. A section in Tottey's bend, contiguous to Duck river, which flows through the country, shows that the exposed formations, embracing about 250 to 300 feet from the top of the hills to the bed of the stream, are composed, first, of the sub-carboniferous limestone and cherty beds, 100 feet or more thick. Immediately under the cherty beds is the Harpeth shale, 150 feet thick. Then comes a bed of kidney phosphate a foot or more thick. Then follows the black or Chattanooga shale of the Devonian age, from two to three feet in thickness. The Chattanooga shale has many phosphatic concretions imbedded in it. These concretions are most frequently kidney-shaped and vary in size from a marble to a water-bucket. Under conditions of scarcity of the phosphate rock these nodules are numerous enough to justify their separation from the associated rocks. Under the Chattanooga shale comes the stratum of phosphate rock, which resembles a bluish and grayish granular limestone, occurring in two separate layers, the gray on top of the black. They show no crystallization. The black, or rather the blue-black, has the general appearance of trap rock as to color and fracture. The gray looks much like limestone that has been taken from the back of an old chimney, where it has long been exposed to the action of the heat, but without calcination. Below the phosphate bed sandstone often, but not always, occurs; sometimes a lime-phosphate takes the place of the sandstone. Then come the Nashville rocks, but at a few places the intervening Niagara rocks, and this is the case when the lime-phosphate is wanting in that horizon.

Discovered by Accident.

The discovery of this valuable bed of phosphate rock was due to a happy accident. A Mr. Childs, who seems to have conceived the idea that the black shale, with its regularity of bedding and cross-vertical planes, was a bed of cannel coal, sometime in 1893 secured a piece and sent it to Mr. Wharton, a well-known analytical chemist of Nashville, for analysis, who readily perceived that the black shale was worthless. A small phosphate nodule or a fragment of the underlying phosphate rock, however, was left adhering to the black shale. Its singularity of appearance arrested the attention of Mr. Wharton, and his curiosity was so much aroused that he made an analysis of it and found it to be the phosphate of lime. This fact was communicated to Mr. Childs, who immediately secured options, and the work of development was begun. Mr. Samuel Ward, who became acquainted with the facts, leased a large scope of country on Swan creek. Swan creek is a tributary of Duck river, emptying into the latter stream four miles above Centreville.

The phosphates having been thoroughly tested in a practical way were found not inferior in quality to any ever before discovered in marketable quantities. The publication of the facts produced great depression, if not consternation, among the phosphate miners of South Carolina and Florida, and before the lapse of another year Tennessee phosphates were known and appreciated in every place in the United States where commercial fertilizers are made, taking a high rank both on account of their large percentage of the phosphate of lime and because of their comparative freedom from hurtful constituents. Not before July, 1894, was any considerable amount shipped out, and for two years all the phosphate rock that left the State was mined in Hickman county. In the latter part of 1894 the phosphate rock of Tennessee first became a distinct factor in the trade. About 45,000 tons were mined and shipped from this field from July, 1894, to July, 1895. Full statistics of production, with value, will be given in a future article of this series. Shipments from Mount Pleasant began July, 1896, which had the effect of reducing and well-nigh arresting the production in Hickman county. The production from the latter place has fallen off greatly since the discovery of the more easily mined phosphates at Mount Pleasant. The total amount produced in this field for the year 1897 did not exceed 26,478 tons in consequence of the inroads made by the Mount Pleasant product.

For a good while all the phosphate rock mined in Hickman county was hauled by wagons to the Centreville branch of the Nashville, Chattanooga & St. Louis Railway, except that brought in barges down Duck river to Centreville from the mines of the Duck River Phosphate Co. This latter company has put in an expensive plant for mining the rock by compressed air, and it has added a crusher for pulverizing it. It has laid within its mines about one mile and a-half of mining track. The rock is of high grade and fine quality, which will enable it to compete, therefore, on the most favorable terms with the phosphate rock mined in South Carolina and Florida. And it is not at all certain that in the end the recent wonderful discovery of the easily mined phosphate beds at Mount Pleasant, in Maury county, will be able to long affect the profitable mining of the phosphate rock in Hickman county. The phosphate beds in Hickman county lie in seams varying from twenty to forty-five inches in thickness. There is, as has been mentioned, usually a division in the seam, the top member in the mines of the Duck River Phosphate Co. being gray in color, and the lower a blue-black. At one place measured the gray was twenty-one inches in thickness and the blue twenty inches. The blue is more compact and is said to be harder to mine.

The rock is mined on the entry system, as one would mine horizontal seams of coal. The weight of this rock, bulk for bulk, is double that of Florida and South Carolina, and perhaps 40 per cent. heavier than that at Mount Pleasant. Its specific gravity is 2.86, and it weighs about 4800 pounds to the cubic yard.

The rock runs from 65 to 75 per cent. of phosphate of lime. The gray rock usually shows a greater percentage of phosphate. It always runs safely within 3 per cent. of iron and alumina, very often less than 2 per cent. In acidulation it is conceded to be the best rock mined in America, having just enough carbonate of lime in it to make the acid phosphate made from it dry out quickly, so that it is thoroughly friable and gets in proper condition for shipment often within two days—a record that no other rock has ever made. Its finely pulverulent condition after acidulation and its freedom from lumps make it especially desirable for use in the wheat drill when sowing wheat.

The following analyses show the general character of the rock mined in Hickman county:

KIDNEY ORE FROM TOTTEY'S BEND.

Phosphoric acid	30.56
Equal to bone phosphate	66.71
Iron and alumina calculated as oxides	....

JNO. M. McCANDLESS, Analyst.

BLACK ROCK FROM TOTTEY'S BEND.

Phosphoric acid	33.22
Equal to bone phosphate	72.52
Iron and alumina calculated as oxides	5.45

JNO. M. McCANDLESS, Analyst.

GRAY ROCK FROM TOTTEY'S BEND.

Phosphoric acid	35.28
Equal to bone phosphate	77.02
Iron and alumina calculated as oxides	3.65

JNO. M. McCANDLESS, Analyst.

SAMPLE FROM SOUTHWESTERN PHOSPHATE CO.

Phosphoric acid	32.64
Equal to bone phosphate	71.25
Iron and alumina calculated as oxides	8.54
Carbonic acid	2.32
Calculated as carbonate of lime	5.25

JNO. M. McCANDLESS, Analyst.

Professor McCandless in his analyses includes the sulphide of iron, as well as

the oxide of iron. As the former is harmless, it should not have been calculated as oxides. Professor McCandless was for several years the State chemist of Georgia. The analyses made by Professor Wharton, of Nashville, and Lehman & Glaser, of Baltimore, give a correct idea of the small content of the oxide of iron, which is one of the injurious ingredients. These analyses follow:

No. 1.—GRAY PHOSPHATE ROCK—SAMPLE No. 36.

Moisture	.43
Silica	6.18
Oxide iron (not in pyrites)	.32
Alumina (soluble in H. C. L.)	.93
Alumina (not soluble in H. C. L.)	.27
Iron sulphide pyrites	1.71
Calcium sulphate	2.04
Calcium carbonate	4.26
Magnesium carbonate	4.32
Bone phosphate of lime	75.64
Bitumen, combined water, fluorine, etc.	3.90
	100.00

J. C. WHARTON.

No. 250.—ANALYSIS SAMPLE OF GRAY ROCK, "EX CAR No. 21,865, DRAWN BY OURSELVES NOVEMBER 27, 1894, SHIPPED BY DUCK RIVER PHOSPHATE CO."

Moisture at 100° C.	.25
Phosphoric acid	33.73
Equal to B. P. L., 73.63.	
Lime	47.18
Total oxide of iron 1.95	
As sulphide of iron	2.09
As oxide of iron	.98
Alumina	1.08
Magnesia	.23
Carbonic acid, equal to carbonate of lime (CaO_2)	3.54
Organic matter	1.13
Silica	2.88
Chlorides, fluorides, etc.	6.91
	100.00

LEHMAN & GLASER, Baltimore, Md.

Mr. G. M. Fogg, president of the National Fertilizer Co., at Nashville, in a recent statement made to the writer, says:

"The best results obtained by us at our fertilizer company in acidulating the Mount Pleasant rock has been obtained from mixing the blue rock of Hickman county with the Mount Pleasant rock. When the iron and alumina is excessive, if we use enough sulphuric acid to get out all of the available phosphoric acid, the rock remains wet and pasty. The mixture of the two rocks works like a charm. I have just had some acid phosphate analyzed thus produced, with the result of 21 and a fraction total phosphoric acid and available 19.10. Analysis was made within forty-eight hours after acidulation. The mechanical condition of the acid phosphate was all that could be asked. It dried quickly and was soft and mealy."

The Work of Mining.

While the Mount Pleasant rock is more cheaply mined, because the seams are thicker and the rock softer and the stripping less, it must be borne in mind that open-cut mining can be carried on only during the continuance of good weather. Rain and snow, freezes and thaws, cold and excessive heat, all retard or put a stop to such mining. The tunnel mining may be carried on throughout the year, and the certainty with which supplies of rock may be had is some compensation as against the cheapness with which the rock may be mined at Mount Pleasant, where the phosphate rock lies at or near the surface, and where it is largely mixed with a clayey matrix that is easily separated in the mining.

The rock at the latter place must be mined, dried and put under shelter during good weather. The supply must be secured before the advent of rainy weather, and the amount of capital to keep a supply on hand must of necessity be greater than at those places where the rock may be mined every day in the year.

A careful study of the working of the mines in Hickman county also discloses the fact that there are localities where the mining may be done very cheaply. At the Southwestern mines a low valley extending for a long distance is underlaid with a bed of the phosphate rock. Mr. Samuel Ward, the superintendent, says he can mine at many places by contract at fifty cents per ton. It requires thirty cents per ton to haul the rock and pass it through the crusher, making the total cost per ton, less hauling to the railroads, ninety cents. On the outcrops at several of the mines the rock may be mined equally as low when day labor is employed. Open-face mining cost sixty cents per ton; where tunnel mining is carried on at the Southwestern Mines it takes $1.40 per ton to mine, haul and crush the rock. The drilling is done with a ratchet drill. Labor is paid ninety cents per day. The mining in tunnels is more expensive, but with compressed air, as now provided at the mines of the Duck River Phosphate Co., it may easily be brought within the limit of $1.25 per ton, and when the mines have been well opened with convenient arrangements for hauling the rock it is believed the cost will be reduced to $1.15 per ton f. o. b. The compactness of the rock in Hickman county also lessens the cost of handling, and the very small amount of waste in mining is another item in its favor.

A large deposit of phosphate rock occurs on both sides of Indian creek, in Hickman county. The Centreville branch of the Nashville, Chattanooga & St. Louis Railway runs up Indian creek, making the whole of this field at present accessible. Nothing is now required but some short spurs of a few hundred yards in length to bring this phosphate to the main line and to market.

This deposit belongs also to what is called the sub-devonian phosphate beds, and lies in a strip of land parallel with the deposits on Swan creek, six miles east. At the outcrops the phosphates at this place are somewhat variable in thickness, but will no doubt, after being thoroughly opened, be found to reach a greater uniformity in the thickness of the beds. Excavations have been made from points within a few hundred yards of Centreville, to Dean's Switch, a distance of two miles. These openings are on both sides of the railroad, and some 16,000 or 18,000 tons have been mined and shipped from this place.

Lying immediately on the railroad, forty feet above grade and very close to it, are large outcrops of the brown phosphate on Indian creek, which character of phosphate was thought not to exist in this locality at all. At one place it is of extraordinary thickness, measuring from eight to ten feet. Usually, however, the thickness as at present developed is only from three to four feet.

The brown rock on Indian creek underlies the blue rock, and resembles in texture, composition and weight that found at Mount Pleasant, in Maury county, but it does not belong to the same geological formation. It appears to have resulted from the leaching or weathering of what is called the gray rock. It is a curious fact that the blue rock on Indian creek occurs above the gray, while the gray is found above the blue in the deposits on Swan creek.

On the east side of Indian creek are three hollows, which run at right angles to the railroad. Two of these hollows are known by the name of Weiss, and for a half mile up these a considerable amount of phosphate has been mined. The Chattanooga or black Devonian shale is found in place in all these hollows. This black shale has imbedded in it a large amount of kidney ore, and in many places it is so abundant as to be workable. At one place there is a thickness of twelve inches of kidney ore which lies at the top of the deposit. Below the kidney ore is a hard blue rock eighteen inches thick running, it is said, 60 per cent. in bone phosphate. Below the blue rock is a fine, hard gray rock eighteen inches thick, which analyzes 75 per cent. of the phosphate of lime. It will be seen, therefore, that, including the bed of kidney phosphate, there is on Indian creek a deposit five feet thick. Excluding the kidney ore, the deposit is four feet thick. This section in Weiss hollow no doubt correctly represents the deposits on Indian creek, for the reason that it has been undisturbed by any great erosive or disintegrating forces. There are no means of estimating the amount of phosphate which occurs in this locality, but with a territory two miles long, and having a width a half mile on each side of the railroad, the quantity is practically inexhaustible for many decades to come.

The brown rock on Indian creek may be mined with a pick and a spall fork. The blue and gray rock, which is the most valuable of all the deposits, though a little more costly to mine, requires blasting in many places.

Several companies and private concerns in Hickman county were actively engaged in mining phosphate in 1894 and 1895. Altogether 141,000 tons have been taken out and shipped from this field since 1894.

Unquestionably as the excellent qualities of this rock become known the demand for it will increase, even though it may sell at higher prices than the Mount Pleasant rock. It is all brought out over the lines of the Nashville, Chattanooga & St. Louis Railway, and the management of that railroad, always alert to any new developments, have recently constructed a branch road, five miles long, from Centreville to the mines of the Duck River Phosphate Co. Markets are found in Sandusky, Cleveland and Cincinnati, O.; in Atlanta, Rome and Social Circle, Ga.; in Montgomery and Mobile, Ala.; in New Orleans, Chicago, Louisville, St. Louis and many other places.

Of Wide Extent.

What about quantity? Unless all the conditions attending the super-position of strata fail in this case, it may be assumed that the stratum of phosphate rock extends over a region on both sides of Swan creek for the length of twenty miles, with a width certainly of three miles, probably five. So far as investigations have gone, the stratum seems to be as continuous and as persistent as that of the black shale that overlies it. The stratum of phosphate rock will safely average thirty inches in thickness throughout the sixty square miles or 38,400 acres. Taking the lowest specific gravity yet reported, and the weight of the blue and the gray on an average is at least 170 pounds to the cubic foot, this would give 9256 short tons to the acre, and taking thirty inches as the average thickness of the seam underlying sixty square miles or 38,400 acres, it would show the vast sum of 355,000,000 tons. But allow only one-fourth to be valuable or accessible, and there would still be 88,800,000 tons—a quantity so vast that the human mind is amazed at the figures and projects itself forward through an almost infinite cycle of years before the supply can be exhausted. Dr. Safford, noted for his conservative estimates, thinks there might be available for mining in this field 123,000,000 tons, and Mr. Hunter McDonald, the chief engineer of the Nashville, Chattanooga & St. Louis Railway, after looking carefully over the field, places the quantity at not less than 100,000,000 tons. Mr. Willard Hayes, of the United States Geological Survey, estimates the amount on the property of the Southwestern Phosphate Co. at 7000 tons per acre, or 10,000,000 tons on about 1500 acres. These estimates do not include the Indian creek field nor the deposits in Perry and Maury counties.

Certainly the fact cannot be doubted that the amount of phosphate in Tennessee is practically illimitable and exhaustless; and it must play an important part in the future development of the State, not only in relation to the mining industry, but in its ulterior effects upon agriculture. Wherever cheap fertilizers are obtained, if markets for farm products are accessible, agriculture flourishes. When agriculture flourishes every other legitimate industry thrives and prospers. I shall enter more fully into the discussion of the benefits which the agriculture of Tennessee and the South generally will derive from this discovery in a future paper.

Up to the time of the discovery of the phosphate beds at Mount Pleasant the prices were very satisfactory for Hickman county rock. Rock in which 60 per cent. bone phosphate was guaranteed brought $2.40 per ton; 65 per cent. bone phosphate, $2.75, and 70 per cent. phosphate, $3.15 per ton. When the mines were first opened in 1894 all rock showing 70 per cent. of phosphate of lime sold readily at $4.50 per ton.

It will be of interest to the reader to compare the phosphate beds of Tennessee with those of South Carolina and Florida.

The South Carolina rock is found in Ashley and Coosaw rivers, and also as land pebble back from the coast. That rock is sold on a guarantee of 57 per cent. of bone phosphate. It is low in iron and alumina. It costs about $2.75 to mine it, wash it, dry it and put it on the cars.

The Florida rock is divided into three characters of material—first, the land pebble, which is found in the Bartow region of Florida. This is mined by hydraulic machinery at a cost of about $2 per ton on the cars. It has to be washed and thoroughly dried. It is sold on a guarantee of 68 per cent. bone phosphate and 4½ per cent. iron and alumina. Second, the Peace river pebble is supposed to have resulted from the washing out of the land pebble into the debris of a little stream known as Peace river, in Florida, the shipping point of which is Punta Gorda. This rock is sold on a guarantee of 60 per cent. bone phosphate, sometimes running as high as 62 or 63. The Peace river people claim that they can put their product on the cars at $1.25. It is low in iron and alumina, less than 3 per cent.

Now, the third class of Florida rock is known as the land rock, or plate rock. It is found in pockets in a clay matrix (it is a lightish yellow clay, nearly white), lying very much like brown hematite ore. This clay affects the rock not only by adhering to it, but by working its way into pockets in the rock. The rock has to be crushed, thoroughly washed and dried before shipment. The drying of the rock is an expensive process, as wood only can be used for that purpose, at a cost of $1.50 a cord. It is a light pine wood, which is of little value as fuel.

The plan very much in vogue for burning and drying the rock is to lay the wood and rock in alternate layers under long sheds, set fire to the wood and in that way burn the rock for the purpose of freeing it from the moisture and clay, it being very difficult to keep this rock low enough in iron and alumina to be marketable. The cost of mining this rock it is believed is not less than $3 per ton. With all the care they can give it, this rock often runs 5 or 6 per cent. in iron and alumina. The plant for mining the Florida land pebble sometimes costs as much as $250,000. The Hickman county phosphate rock shows an average from 5 to 10 per cent. more phosphate of lime and much less alumina and iron than the South Carolina rock. These last-named constituents greatly impair the value of the product. The limits of this article precludes the mention of

many items that go to show difficulties met with and the advantages offered in the mining of these phosphates. No other deposits now known in the world can compare with those of Tennessee in quantity, quality and in the cheapness with which the rock is mined, and these deposits are destined to supply the basic material for a large majority of the fertilizer manufacturing establishments of the world.

Industrial News from Birmingham.

[Special Cor. Manufacturers' Record.]
Birmingham, Ala., July 5.

There was nothing in the market the past week deserving mention, except the prevalence of a tired feeling because of the limp condition of prices. There is as yet no stiffening to them. Yet the feeling at the moment is one of indifference to any further extension of the already long line of sales at unprofitable figures. The leading interest reports orders now registered in amount equal to 80 per cent. of their output for the next eight months. So, with only 20 per cent. of anticipated output for that period to find a market, they are in an independent position and are daily declining orders at the low prices that have been prevalent. One order was for 25,000 tons of warrant iron at a reduction of only twenty-five cents per ton. It was promptly declined, and their selling agents have been notified that it was useless to forward orders at the wrecking prices that have ruled. The business the past week shows a material falling off from that preceding, which indicates either that current wants of buyers have been supplied, or that the search for buyers is now only of a desultory character. In either event it indicates a removal of the pressure and a disposition to cease the slaughter. So far as quotations are concerned, they may be stated as still irregular, with a tendency towards a little better prices. There is less of the feeling to "hit a head wherever you see it," but it will take time to get prices back to the point they were when demoralization caused the market to run riot.

Special inquiry as to iron warrants developed nothing whatever of interest concerning them. The export room offered was an increase over the preceding week, and extended in time from August to December, and was all taken. The interest in this branch is attested by the fact that very little of the offered room now fails to find a taker. Something of a flurry was created by the announcement that the Elyton Company, so long identified with the upbuilding of this locality, had gone into the hands of a receiver. It was thought that the move was equivalent to a confession that we were enjoying only a paper prosperity. The facts leading to this action are these, viz.: When, at the climax of the boom, the Elyton Land Co. had a large surplus accumulated from sales of real estate, it was determined to distribute it to the stockholders. But the surplus was in the nature of purchasers' (of real estate) notes, and all representing but partial value, as a cash payment at time of purchase was made. At the time this surplus was considered as gilt-edge collateral and perfectly good for face value and interest. Instead of distributing the notes to stockholders as dividends, bonds to the amount of $2,400,000 were issued with these notes for an equal amount as collateral security. The bonds were distributed and the company, of course, had to shoulder their payment. Financial panics wrecked business and brought ruin to a majority of the makers of the notes. Default in payment of the notes resulted, foreclosure followed, and the property reverted back to the Elyton Land Co. While thus crippled the interest on the bonds had to be met and their ultimate payment provided for. To do this and protect and keep intact its large interests a new company was formed and to it was transferred the interests of the old company. It was really a reorganization and in the same line pursued with such success by J. Pierpont Morgan in his railroad schemes. The consent of a large majority of the stockholders was obtained, but a few representing a small moiety of the stock objected and entered suit to prevent confirmation of reorganization. They were successful. This forced the company to confront the probability of other suits and the harassments and annoyances incident thereto, or to go into receivers' hands, keep its interests intact and wind up the loose threads on its spool. The latter course was adopted, and it is only conservative and reasonable to say that as soon as the dissenting elements in the corporation are eliminated the company will be on a better basis than since the time when the bonds were issued.

The minor industries are keeping up well. The Means-Fulton Company has contracts for boilers to go to Mississippi, besides contract with local firm for several boilers of varying powers. Then it has orders for coal chutes for a mining company and is in it for repair work at rolling mill. The nut and bolt works will be ready for business as soon as its belting and shafting are adjusted. Then we will have the best-arranged and the most-efficient nut and bolt works in the South. The shops in which repair work is a specialty are running overtime, while among the larger and more complete shops they are so full of work that they cannot handle large orders "on time," and are yet declining them. The influence of the new steel mill on values is illustrated by this incident: A few weeks ago one who had faith in its coming invested $2000 in lots at Ensley. Last Monday he was offered $4000 in cash for his investment and declined it.

J. M. K.

EXPLOITS OF THE TEXAS.

The Only Battleship Built in the South Proves Its Capabilities as a Fighting Machine.

"The Texas first to sight the Spaniards as they emerged from the harbor—She promptly gave battle and stayed in the fight to the end." These are the words used by the New York Sun in the headline to its article describing the defeat of the Spanish fleet off Santiago. In the course of that article the Texas is in constant action, plunging ahead at full speed toward the enemy as soon as they appeared at the entrance to the harbor, and signalling at the same time "the enemy is trying to escape," engaging one vessel after another, and proving generally efficient in speed and action. The Sun says: "The Texas, still heading in shore, kept up a hot exchange of shots with the foremost ships, which gradually drew away to the westward under the shadow of the hills. The third of the Spanish vessels, the Vizcaya, or Infanta Maria Theresa, was caught by the Texas in good fighting range, and it was she that engaged the chief attention of the first battleship commissioned in the American navy—the old hoodoo, but now the hero. The Texas steamed west with her adversary, and as she could not catch her with speed she did with her shells."

The destruction of the Spanish fleet enabled the Texas to add to the prestige that it has acquired during the present war. It has throughout demonstrated its efficiency and seaworthiness, and has effectually estopped the ridiculous criticisms that were made of the only vessel of this class built in a Southern shipyard.

The Texas has been in commission about two years, but for fully three years has been the target for more criticism than any warship ever added to the United States navy. It was claimed in many Northern newspapers that the ship was liable to founder in heavy seas; that its machinery was defective; that its guns would not work properly, while several slight accidents on board the vessel gave it a reputation of being a "hoodoo." Many of the newspaper criticisms emanated from sources hostile to Southern shipbuilding, while the fact that the original plans of the Texas were purchased in England also caused a portion of the attack.

During the last six months, however, the battleship has been subjected to tests in all kinds of weather, and with entire success. While it took part in the blockade off the Cuban coast, and in the attack on the Santiago fortifications, the destructiveness of its guns was shown by the great damage inflicted on various fortifications. It could be maneuvered so readily that it has entered channels where other large vessels could not go, and on more than one occasion has borne the brunt of the fighting. Naval officers agree that the work of the Texas thus far has been admirable.

In size and armament the Texas is next to the Maine, both being rated as second class battleships. It is very wide in proportion to its length. It can be maneuvered, as already stated, with the greatest ease, which has been of vital importance in the work assigned it. It is about 6500 tons in size, its engines develop 9000 horse-power, it is protected by a belt of steel armor twelve inches thick and provided with batteries consisting of two 12-inch guns in turrets, six 6-inch, four 6-pounders, four 3-pounders and four Gatlings, in addition to six torpedo tubes. It carries a crew of 350 officers and men, and has a coal capacity of 850 tons. One feature of the vessel is its speed, which it is calculated can exceed seventeen knots per hour under forced draught. While the hull was constructed at the Norfolk navy-yard by Southern mechanics, its machinery was built and installed by a Southern corporation—the Richmond Locomotive and Machine Works. Although this was the first marine-engine contract ever carried out by the works, it was entirely successful, and received the warmest praise from the government experts.

Had Prompt Returns.

In a letter to the Manufacturers' Record Hon. C. C. Goodnow, mayor of Fitzgerald, Ga., writes as follows:

"With last mail comes your letter of the 30th of June, and in the same mail a copy of the Manufacturers' Record and a good job lot of letters referring to the notice of proposals and asking for specifications. In the face of this, how can I justify further advertising? I feel that I shall have all the correspondence I can attend to as it is, so will let the matter stand as it is. Guess you'll have to curtail the circulation of the Manufacturers' Record."

The Southern Stove and Range Manufacturers' Association has elected the following officers: President, D. R. Saunders, Fort Payne, Ala.; vice-president, H. W. Buttorff, Nashville; secretary and treasurer, H. H. Hedden, Chattanooga; executive committee, G. W. Farrington, T. R. Patterson and J. H. Hardwick.

The city of Atlanta has been designated as one of the points for printing war revenue stamps to be placed on bank paper. The Eclipse Printing Co., of Atlanta, will do the work.

COMMERCE.

This department is devoted to a record of the rapidly developing commerce of Southern ports.

SOUTH AMERICAN TRADE.

Suggestions for the Advantage of the United States.

Commending the establishment of the Caracas warehouse by the National Association of Manufacturers and the proposed exposition of 1899 by the Philadelphia Museums as of incalculable value in enhancing the commercial relations of the United States with Central and South America, Consul E. H. Plumacher, at Maracaibo, Venezuela, points to the business expansion of Germany in South America as an example. It is estimated that Germans have invested in banks, railroads, breweries, mills and factories of different kinds $46,000,000 in Mexico, $35,000,000 in Guatemala, $50,000,000 in Venezuela, $150,000,000 in Brazil and $25,000,000 in Chile. Mr. Plumacher writes:

"In my consular district we have German houses which export for their own account over $2,000,000 worth of coffee in a year, not to mention other articles. If I should estimate the German capital invested in this district, it would run high into millions of dollars; and it is the same in the other consular districts of Venezuela. Of United States capital, there is not a dollar invested in this district. This foreign capital is one of the obstacles to the expansion of our trade; and there is also the competition with the experience of the Germans—their thorough business training, their endurance, their knowledge of foreign languages, their patience and attention to details."

He suggests that it would be well for our merchants and manufacturers to send their sons or relatives to South America, to study the language, country and habits of the people and become acquainted with the business methods of this country. Arrangements should be made with well-situated houses in South America to accept our young men in their business. They should possess some business training before being sent here. A young man should be able to live in most places in South America on $700 to $800 gold a year. In the space of three to four years he should have mastered the language thoroughly and have studied the customs of the people and the branches of the trade which he intends to follow; in short, he should be fit to open his own business or to attend successfully to the interests of his commercial friends in the United States.

Oats for Export.

The oat crop promises to furnish an important item of export in New Orleans's commerce this year. The Texas & Pacific Railroad Co. is preparing to handle a large quantity at New Orleans and its general agent is quoted as saying:

"The oat crops in the West are fine this season. The people of that section, too, are attracted to this city as their port more than ever, and the business will move here more than last season. A great deal of it is for export, though domestic demands promise to be fairly good."

Cotton for Port Chalmette.

Several weeks ago the Manufacturers' Record stated that the New Orleans & Western Railroad Co. might purchase or build steamers especially for the river and bayou trade in the navigable waters tributary to the Gulf of Mexico. It is understood that the company has secured two boats for this service. They will

run between its terminals at Port Chalmette, La., and important towns on the Mississippi. By this arrangement it is calculated that Port Chalmette will be supplied, when the next cotton season opens, with packets which will not only operate on the main river, but smaller packets, which will do business in all the tributary streams. The intention of the company is to popularize the new terminal with the shippers. It is said the company has been forced to go into the packet business in order to get all the cotton wanted at the new terminal.

Commerce with Cuba.

It is announced that a steamship line to Havana, to be controlled by an American company, is being considered in this country. Vessels will probably be placed in service between New York, and possibly Baltimore, and the Cuban city. The idea, it is understood, is to complete arrangements with the view of beginning operations as soon as Havana becomes an American possession.

It is also announced that arrangements looking to the resumption of the iron-ore shipments from Cuba are being made, and that in the near future vessels will again be placed in service between Baiquiri, near Santiago, and Baltimore. At Baiquiri are very extensive and valuable deposits of iron ore, which is extensively used by the Maryland Steel Co. and other American corporations. These mines are practically in possession of Americans at present.

Property for Terminals.

According to a dispatch from Sabine Pass, Texas., the Southern Pacific Company has purchased 25,000 feet of water front at Sabine Pass for docks and wharves and ground for yards and terminals. The purchase was made from the Sabine Land & Improvement Co., and Mr. Jos. Osgood, general manager of the land company, was given $51,000, the purchase money for the land purchased at Sabine Pass. Manager Van Vleck, of the Southern Pacific, is quoted to the effect that the extent of the improvements at Sabine Pass could not yet be told, as they had not been determined upon. Docks and wharves will be built, however, and the Morgan steamships will run there during the busy season.

New Bay Line Steamer.

The steamer Tennessee, being built for the Baltimore Steam Packet Co. by the Harlan & Hollingsworth Co., of Wilmington, Del., is to be launched this week. She will be a valuable addition to the fleet of the Old Bay Line. The Tennessee is 245 feet long, thirty-eight feet beam, fifteen feet depth of hold, with a mean draught of ten feet. She will have two triple-expansion engines, and steam will be generated in four large boilers of the Scotch type. The twin screws will be of manganese bronze. The staterooms will be handsomely furnished, and the boat will be lighted with electricity. Electric fans will be placed in the cabins.

May Add to Its Fleet.

A New Orleans dispatch states that a report is current concerning the addition of several new vessels to the Morgan Line of steamships plying between New Orleans and New York. The Manufacturers' Record announced sometime ago that the government had taken the best portion of its fleet, using them for cruisers. It is reported that the company has planned the new vessels and that arrangements to build them may be made in the near future.

Jottings at the Ports.

The number of passengers arriving at Baltimore by vessel from foreign ports during the year ending June 30 was 11,757, compared with 6828 for the preceding year.

It is now stated that the Morgan Line of steamers will resume its service to New York and New Orleans, and that within a few days three Morgan ships will sail from New Orleans for New York.

There is a possibility that the service of the Lone Star Line of steamships between New York and Galveston, Texas, may be resumed. It was discontinued when war began and two of the fleet taken by the government for transports.

The Susquehanna Steamboat Co. has established a service on Chesapeake bay and the Susquehanna river, between Baltimore, Port Deposit and Havre de Grace, Md. A new steamer, the Susquehanna, has been constructed especially for the line.

It is announced that the Chesapeake & Ohio Railroad Co. has offered the government its fleet of freight steamers at the actual cost of the vessels. The company also offers to take them back at a fair price at the close of the war. These ships are now running between Newport News, Norfolk and Great Britain, and average about 8000 tons each. They are fitted for carrying livestock as well as freight, and comprise seven in number. They are among the best-equipped steamships which cross the Atlantic.

Demand for Southern Coal.

Although the development of the Pocahontas coal territory was initiated as recently as 1883, its reputation for fuel purposes has become international, and today it is being used by vessels of all classes as bunker coal, including the ships of our navy, while it finds a ready market in the principal manufacturing centers of the North, as readers of the Manufacturers' Record are aware.

Referring to this industry, a correspondent of the Richmond Dispatch says: "When some five or six years ago there was a serious strike in the mines of England and Wales, this coal found its way to the Cape de Verde and other Eastern islands, and some of it was actually imported into London, and, attracting the attention of the British admiralty, it is said, was tested by them. Another strike has come in England and Wales, and the coaling stations in the Eastern islands of Cape de Verde, Cape of Good Hope, etc., are having to look to the Atlantic coast of America for a supply of coal, and, although Pocahontas is higher than the Canadian coals, there is a demand for it at Cape de Verde and the Cape of Good Hope, the English contractors offering a high price for it, and giving a guarantee that under no circumstances will it be sold, either directly or indirectly, to Spanish vessels.

"The trade has largely increased with the West India islands, especially St. Lucia, and within the last sixty days the British admiralty have purchased two cargoes for consignment to the naval agent at Bermuda. Several foreign governments are in treaty for supplies of this coal, and our own government has bought largely of it to send to Key West and Honolulu, and has just purchased a cargo to send to Manila."

Gunton's Magazine for July contains three articles of particular interest to the South. They are a study of the Nicaragua canal problem, a thoughtful sketch of Tuskegee Institute and its wise founder, and a description of negro life on a turpentine farm.

RAILROAD NEWS.

[A complete record of all new railroad building in the South will be found in the Construction Department.]

Disposition of Columbia & Maryland.

The final disposition of the Columbia & Maryland Railroad, proposed between Washington and Baltimore, but placed in the hands of the court before completion, is thus announced by one of the officials in possession of the property: The Maryland Traction Co. will sell to the Baltimore Consolidated Railway the line of railway from Baltimore to Ellicott City, and will sell to the Eckington & Soldiers' Home Railway of the District of Columbia the line of railway extending from the District line to Laurel. The Maryland Traction Co. will continue to own the other railway franchises formerly owned by the Columbia & Maryland Railway, which authorizes it to connect Laurel with the Catonsville Short Line.

Under an act of Congress the Eckington Company was authorized to buy the property and franchise of the Maryland & Washington Company and the line of railway between the District line and Laurel and to change its name to "City & Suburban Railway of Washington." Meetings of stockholders have been called for July 14 to consummate these purchases and to unite the three lines under one system. At the same time the issue of bonds of the City & Suburban Railway Co. of Washington will be authorized for the purpose of providing funds for the immediate reconstruction and equipment of the system.

The Laurel line will only be constructed and operated for the present so far as Berwyn, a short distance north of Hyattsville, but the extension of the system to Laurel in the near future is contemplated. A syndicate, headed by the Baltimore Trust & Guarantee Co., has underwritten the entire issue of bonds and the construction contracts will be given out at once. The underground electric system will be used in Washington city and the overhead trolley over the rest of the line.

The Eckington & Soldiers' Home Railway Co., of Washington, has effected a reorganization. O. T. Crosby, president of the Potomac Electric Power Co., of that city, was elected president, and Dana Stevens, secretary, with the following directors: H. P. Scott, of Wilmington, Del.; Thomas J. Haywood, Baltimore; H. A. Parr, Baltimore; Robert Carswell, Baltimore; R. C. Davidson, Baltimore; D. M. Newbold, Baltimore, and W. K. Schoepf, the present receiver of the company.

Proposed Virginia Line.

A plan to build a railroad through Tidewater Virginia along what is known as the northern neck of the State by the Richmond & Tidewater Railroad Co. has found favor in Richmond, where it is realized that such a line will bring the Virginia metropolis into closer commercial relations with one of the most productive portions of Virginia. At a special meeting of the Richmond Chamber of Commerce the following resolution was adopted:

"The Richmond Chamber of Commerce learns with profound interest that active measures are being taken in the county of Gloucester, Virginia, under the charter of the Richmond & Tidewater Railroad Co. (granted at the last meeting of the general assembly), to inaugurate the necessary county co-operation for the prosecution of this enterprise. As the central organization, representing the commercial and manufacturing interests of the city, the Chamber regards any bona fide movement looking to the construction of this railway as one of the most important and promising that can be undertaken, both from the standpoint of the counties to be thus afforded increased transportation facilities, and from Richmond's interest in closer connection with that section of the State."

A New Texas Line.

The Moscow, Camden & San Augustine Railroad Co., which was recently referred to in the Manufacturers' Record as promoting a line seventy-five miles long from Moscow to San Augustine by way of Camden, Texas, has already begun work on the portion between Moscow and Camden, and this portion is nearing completion. The stockholders elected the following directors and officers: C. H. Jones, of Galveston; J. E. McAshan, of Houston; E. J. Mantooth, of Lufkin; J. A. Handley, of Hortense; S. Bergman, of Moscow; D. L. Jones, of Moscow; W. T. Carter, of Camden; E. A. Carter, of Camden, and J. Thomas, of Camden; W. T. Carter, president; C. H. Jones, vice-president; E. A. Carter, treasurer, and J. Thomas, secretary.

Restoring Their Wages.

As already stated in the Manufacturers' Record, the Louisville & Nashville Railroad Co. has restored a portion of the salaries of employes which were generally reduced in 1893. President Milton H. Smith has issued a circular, which is as follows:

"Louisville, Ky., July 1, 1898.—Notice is hereby given that, taking effect this date, one-half of the reduction in the wages of officers and employes made as per circulars dated August 7 and 14, 1893, not heretofore restored, is restored, and the remainder will be restored on January 1, 1899. By order of the board of directors."

Railroad Notes.

Mr. T. S. Tutwiler has been appointed chief engineer of the Plant system, to take effect on July 1.

T. W. House, of Galveston, has been appointed sole receiver of the Galveston, La Porte & Houston Railroad.

Mr. C. C. Mallard has been appointed division engineer of the Southern Pacific Company, with headquarters at Algiers, La.

N. G. Pearsall has been appointed general manager of the St. Louis, Avoyelles & Southwestern Railway, with headquarters at Marksville, La.

E. B. Dorchester, secretary and assistant general manager of the company, has been appointed general manager of the Velasco Terminal Railroad.

The Consolidated Railway Co. of Atlanta has secured what is known as the Lakewood line, and extending to a resort in the suburbs. A track will be laid to connect the two systems.

The San Antonio Edison Street Railway has been sold to interests represented by W. H. Weiss, president of the San Antonio Street Railway Co. The property was owned by the General Electric Co.

The Virginia Midland Railroad Co. has formally transferred its property, consisting of 369 miles of line, to the Southern Company. The Virginia Midland has been practically in control of the Southern for several years.

The office of assistant general superintendent of the Plant system has been abolished and a new office established, to be known as the superintendent of motive

power. W. E. Symons has been appointed to this position.

The Houston, East & West Texas Railroad Co. has ordered five locomotives from the Baldwin Locomotive Works, to be completed in September. This order will give the line twelve new locomotives. In addition, the company has ordered fifty box cars from the Pullman Palace Car Co.

The St. Louis Southwestern Railway Co. has received 500 new cars. They were built by the Missouri Car & Foundry Co., of St. Louis, and are modern in all respects. The increased volume of business of this line demanded greater facilities for handling same, hence these new cars.

Another report is current that the York Southern Railroad, extending from York to Delta, Pa., has been sold. It is stated this time that the purchaser is the Pennsylvania Railroad. The York Southern was until recently operated in connection with the Baltimore & Lehigh, forming a line between York and Baltimore.

The Southern Railway Co. has secured control of the Carolina & Cumberland Gap Railroad, extending between Edgefield and Aiken, S. C. The line is about thirty-five miles in length, and heretofore has been operated by an independent company. It is understood that new rolling stock will be placed in service and the road improved in other ways.

The shipments of fruit from Texas, recently referred to in the Manufacturers' Record, is assuming large proportions. It is stated that so far over 300 cars of watermelons have been shipped from the section embraced by Bee, San Patricio, Nueces and Aransas counties. The crop is not as large as was expected, but the yield is so great that the demand for cars is much larger than the supply.

Among the improvements under way at Beaumont, Texas, is the construction of the belt line of the Beaumont Wharf & Terminal Co., which, besides connecting with all the lumber mills and manufacturing plants, will also connect with the Southern Pacific, Gulf & Interstate, Texarkana & Fort Smith, Gulf, Beaumont & Kansas City and the Sabine & East Texas. The company also contemplates erecting a union passenger depot for the lines entering Beaumont.

In Northwestern Arkansas.

Mr. J. A. C. Blackburn, of Rogers, Ark., in a letter to the Manufacturers' Record, says:

"There is a large immigration coming this way, and we propose to help to locate it. We have two colonies already of Swedes in Chicago wanting a large tract for colonization purposes, and we are prepared to give them low prices and plenty of time, with low rates of interest, and if our local papers would only do their duty, like the Manufacturers' Record does, we would not be long in settling up this part of the State."

The Kinston Cotton Mills, of Kinston, N. C., reported several months ago as organized, has raised a capital of $58,000 and orders for the equipment of machinery have been placed. The building necessary is now being erected and yarn is to be the product of the factory. Mr. W. C. Fields is president.

Modern Machinery, of Chicago, for July has as a frontispiece a striking new portrait of Capt. A. T. Mahan, member of the strategy board and author of "The Sea Power in History," who has been called by high authority the originator and first exponent of the philosophy of naval history.

TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the Manufacturers' Record. We shall be glad to have such matter at all times, and also to have any general discussion relating to cotton matters.

FLAX FOR LINEN.

How the Industry May Be Extended in This Country.

The paper on the manufacture of linen read at the last meeting of the New England Cotton Manufacturers' Association by Mr. Jones P. Davis, of Holyoke, Mass., has caused a great deal of comment in different parts of the country, and makes peculiarly timely an article in the Year Book of the Department of Agriculture for 1897, recently issued, on "The Present Status of Flax Culture." In this Mr. Charles Richards Dodge reviews the history of flax culture in this country, and calls attention to the fact that a remnant of the industry of manufacturing household linen still exists in the mountains of Virginia, North Carolina and Tennessee. In conclusion he says that there is no doubt about our ability to grow commercial flax if the people will only make beginnings and go to work in earnest, with the idea in view first to establish the industry and to make money out of it afterward. He asks: "Is it not our wisdom to begin at once with the view to producing within our own borders the supply of raw flax fiber needed in the home manufacture of twine, flax threads, crash and linen? The cotton manufacturing industry is leaving New England for the South, and linen manufacture will eventually take its place, for the movement has already begun. The establishment of a linen manufacturing industry in New England would soon create a demand for double the quantity of raw flax now consumed, and American farmers should supply this demand."

In a previous publication of the Department of Agriculture Mr. Dodge stated that something more is required to set the industry on its feet than for a body of farmers to undertake to grow the plant for fiber. He said:

"There is a necessity for a class of skilled workers who will come between the farmer and manufacturer in carrying on the operations of retting and scutching. It is futile to expect the farmer to ret and scutch his flax. It is not done on the farm in foreign countries, nor in Canada, save to a very limited extent, and it cannot be done here. It is done largely in Russia, and low-grade fiber, requiring most careful sorting by the buyers, is the result.

"As the case stands, the farmer is hardly in position to grow flax, save in an experimental way, until he is sure of a market, and the manufacturer, that is, the spinner, is not in a position to make offers of purchase or to name a price, because he is not sure that the farmer can grow flax of the proper standard, or that he can afford to purchase at any price, for his particular manufacture, such flax as the farmer may produce.

"Does this mean a deadlock between grower and manufacturer—an insurmountable obstacle that will doom forever the American flax-fiber industry? Not at all. It simply means that what isolated farmers cannot accomplish alone must be accomplished by the establishment of little local industries. To borrow a foreign term, the future flax industry of the United States must be communal—that is to say, capital must establish scutch mills in localities where flax may be profitably grown, farmers of the neighborhood agreeing to produce five, ten or twenty acres of straw each, under the direction, if need be, of the managers of the mills, to insure the growth of a quality of straw that will give the proper standard of fiber. This relieves the farmers from any responsibility in the matter further than to produce a proper crop of straw. The scutch mills or tow mills attend to the retting and cleaning of the fiber, which in turn is sold to the spinner.

"One good scutch mill will prepare the flax grown on a score or more of farms, and as the work is accomplished under one direction, the product will be far more even as to standards than would be possible were it prepared by twenty different men. The scutcher has a money interest in the matter of the production of properly-grown straw by the farmer, and is in position to aid him by many hints and suggestions. In Canada and in Northern Michigan (in the neighborhood of Yale, where there are successful scutch mills) the practice is to sell the seed to the farmers, at the mills, at a fixed price per bushel, the farmers agreeing to sow a certain number of acres to flax, the straw of which the managers of the scutch mills agree to take at a fixed price per ton, in some cases $10 being named. And in no other way can an American flax-fiber industry be established.

"This establishes three divisions of labor—as the growing of the crop by the farmer, the retting and scutching by the purchaser or factor, and the spinning and the weaving by the manufacturer."

OUTLOOK FOR COTTON.

Col. Alfred B. Shepperson's Review of the Situation.

In Textile America for June 30 Col. Alfred B. Shepperson, of New York, has an article on the cotton situation from which the following extracts are taken:

"There is everywhere a notable lack of speculative interest. The spinners of the world have taken and are consuming more cotton than ever before, and indications point clearly to a still larger consumption during the coming season. The poor grain crops of many countries last year increased the cost of living in Europe and hence reduced the demand for cotton goods. The recent heavy decline in wheat and the assurance of ample crops of cereals this year in Europe, India, Argentina and America will give cheap food products to Europe, and should certainly result in a larger demand and better prices for cotton goods, with a corresponding improvement in cotton itself. The poorer classes of people throughout the world are the largest users of cotton goods, and to all of these people the matter of food is the first consideration, so that it may be safely accepted as a general rule that the demand for the products of the cotton mills will increase just as the price of wheat declines."

"The present condition of the crop is very favorable, being better than last year and a trifle better even than the average at this time of the past ten years. It must be added, however, that the condition at this period is no criterion whatever by which to judge of the final result of the crop. A drought in August would utterly destroy the most favorable prospect of the last week in June, while favorable weather in July would easily overcome adverse conditions existing in June. In fact, no great consideration should be given to the condition of the plant up to the 1st of July. The critical periods for growth and development come later and the enormous crop of last year is a striking object-lesson of the influence of the weather conditions even after the 1st of October on the size of the crop. While it is possible that the conditions hereafter may be even better than last season, and we may make as large a crop upon a smaller acreage, the doctrine of chances is decidedly against either proposition. If one were compelled to wager in any way upon the matter it would be safer to bet against matching either the last season or the last crop."

"Statistically, the position of cotton is stronger than at this time in 1895, and prices are five-eighths of a cent lower. They are also one and three-eighths cents lower than a year ago. The war with Spain has been practically without effect upon the price of cotton anywhere. The price advanced a trifle in Liverpool at the commencement of hostilities, upon the idea that Spanish cruisers would interfere with cotton shipments from this country. The war has really caused no practical interference with our export of cotton. The war rate of insurance on cotton cargoes from our ports to Europe has never been over one-fourth of 1 per cent. (or about seven cents per bale), and in some instances as little as one-eighth of 1 per cent. The president of a leading insurance company told me recently that he had not heard of the capture of a single bale of cotton by Spanish cruisers or privateers. Spain's cotton manufacturing industry is not important. During last season we exported to Spain only 225,000 bales of cotton, and we have sent to Japan so far this season 200,000 bales (against 61,000 bales for all of last season). For the future it is likely Japan will be a larger buyer of our cotton than Spain. In point of fact, if every cotton mill in Spain should be swept out of existence, together with a goodly portion of the Spanish people along with their mills, I do not think the circumstance would have the least depressing effect on the price of American cotton."

Advantages of Round Bales.

Some weeks ago the Manufacturers' Record published a description of the round-bale compress at Muscogee, I. T. It will be remembered that this gin and compress made the record for round-bale business last season, having handled over 4000 bales. Mr. A. W. Robb, president of the company, in a letter under date of June 26, says:

"We have just received returns from our round-bale cotton at about the same time we got returns from nearly 500 square bales, which we had stored under the same conditions as round bales. There is over $2 per bale in favor of the round-bale system, aside from an average shrinkage of about six pounds per bale from gin weight over the square bale. I am going to bale 5000 bales this season, if there is that much raised within a radius of ten miles."

Negro Cotton Mill at Concord, N C.

An article claiming to tell of the failure of the negro cotton-mill project at Concord, N. C., has been current in the press for several weeks past. The article in question has been called to the attention of Mr. W. C. Coleman, who is president of the Coleman Manufacturing Co., and he states that there is absolutely no foundation for such a story. There has not been since the inception of the enterprise any happening that would cause its friends to expect its failure. On the contrary, the company has been regularly organized, officers have been selected, a commodious and modern factory building has been completed, water works, telephone lines, etc., have been installed and

part of the machinery is now on its way to Concord.

To Add 5400 Spindles and 160 Looms.

The Durham Cotton Manufacturing Co., of East Durham, N. C., noted in our last issue as to build an addition, one story high, 125x250 feet, will arrange to have work commence on said structure as soon as possible. Plans for the building will be ready soon and contracts will then be awarded. Mr. W. H. Branson, treasurer of the company, is authority for the statement that the equipment of machinery to be placed in the new mill will consist of 5400 spindles and 160 looms. This will make the company operate in all 17,400 spindles and 500 looms.

Many Processes in One Plant.

The Edgefield Manufacturing Co.'s cotton mill will start operations about August 1. The plant will start with 2500 spindles and 150 looms on standard four-yard sheetings. This company operates a ginnery, a cottonseed-oil mill and a fertilizer works. When the cotton mill is put in operation the company will be in position to receive the seed cotton from the farm, gin it, crush the seed for oil, turn the meal into a fertilizer, turn the hulls into a cattle feed and turn the cotton into cloth, all in one continuous manufacturing process and in one plant.

$150,000 for Improvements.

The Porterdale Mills, of Covington, Ga., will expend about $150,000 for important improvements and additions to its plant. An addition to accommodate new machinery is now being erected and will be pushed as rapidly as possible to completion. The building will be a three-story structure, 300x80 feet, to accommodate 15,000 spindles and employ probably 500 or 600 operatives. The present mill has only 5000 spindles in place. Mr. J. F. Hanson is president of the company.

Clemson's Textile School.

The building for the textile school at Clemson College, S. C., is near completion. A full equipment of machinery has been given to the school by the machinery builders, which will be installed as soon as it is received. The school will be ready for students this fall. The professor of textile engineering will be elected by the board at the next meeting.

Textile Notes.

The Yorkville Cotton Mills, of Yorkville, S. C., is installing some new machinery in its plant. The present equipment of 4720 spindles is being augmented by 320 twisters and 672 spindles.

The Red Bluff Mills, of Clio, S. C., has about decided to install a steam plant of 100 horse-power in order to duplicate its water-wheel plant. Estimates on boilers and engine are now being invited.

The mill of the Cedar Shoals Manufacturing Co., of Richburg, S. C., was destroyed by fire last week. The factory was a small one, being equipped with 1400 spindles, etc. Probably it will be rebuilt.

The latest circular of the School of Industrial Art of the Pennsylvania Museum is devoted to the Philadelphia Textile School. The publication presents a historical sketch of the institution, gives its equipment and courses of study and other information of value not only to persons who propose to take a course there, but also to those who are interested in the subject generally. A list of the graduates of the school and their occupations is a striking illustration of the advantages of such a school to the city and State of its home.

COTTONSEED OIL.

This department is open for the full and free discussion of trade topics and practical questions, and contributions are invited from men who are identified with this industry. Items of news are always acceptable.

Cottonseed Crushers.

The Interstate Cottonseed Crushers' Association will hold its annual meeting at Atlanta, Ga., on the 21st to 23d of this month. Representatives from every cottonseed-oil mill and all those interested in the industry have been invited to attend, whether they are members of the association or not. There will be very low excursion rates, not exceeding one cent per mile, to Atlanta and return at that time. The object is to get as many present as possible, that attention may be given to needed changes in the constitution and by-laws, rules for sale and delivery of cottonseed products, appointment of committees to look into matters of freights, insurance, etc., all of great interest and value in the conduct of the business, as well as others that may be suggested, wherein a body composed of a majority of those interested in the mill business, and by them discussed and considered, must result in the preparation of a way to improvements that will be of value and appreciated by the crushers and their friends generally.

The Market for Cottonseed Products.

New York, N. Y., July 5.

The cotton-oil market is a disappointing one, and not a little surprise is evinced by the trade at the unusual dullness and protracted weakening of prices. The latter is undoubtedly due directly to slow demand, as all other conditions, with the exception of a depressing influence exerted by the declining lard market, are favorable to cotton oil. The local demand is confined to jobbing quantities and in a limited way, not a few of the sellers devoting their attention to other lines until the clouds pass by. Domestic needs generally are light, even in the West, and but few sales are reported. From Europe there is yet a slow and unsatisfactory demand, and with a decline in English oil the situation with regard to exports is not improved. Nevertheless, there is no apparent pressure to sell, in which latter case an appreciable drop in values would be the result, as indicated by the foreign markets. Lard is still weak in price, having declined since our last, 5.45 cents being quoted for September delivery, Chicago. The demand for compound lard has waned accordingly to the decided disadvantage of cotton oil. Tallow remains at 3¼ cents nominally quoted, sales being made at 3 3-16 cents. Sales of prime yellow have been reported as low as 23½ cents. Holders are not seriously disturbed at the present unsatisfactory condition of affairs, feeling assured that buyers will want all the available oil before next crop. The closing of the Produce Exchange during the holiday term contributed to the trade dullness, and at this writing there is not a noteworthy feature of the market. There is no doubt that active trading would result from a concession in prices, whether with regard to the mills meeting the views of lard refiners and other consumers and exporters. New Orleans holds summer yellow at 21½ cents, but ocean freights are too high for active operations. The following are closing prices: Crude, 19 cents; crude, loose, f. o. b. mills, 16 to 17 cents; summer yellow, prime, 23½ to 24 cents; summer, off grades, nominal; yellow, butter grades, 26 to 27 cents; white, 28 to 29 cents; winter yellow, 28 to 29 cents; salad oil, 28 to 29 cents. Refined oil, Liverpool, has declined to 15s. 9d. Exports for the week aggregate 3200 barrels, and arrivals from the South 2850 barrels. The arrivals of seed in England from Egypt are materially less than a year ago. The imports into London during the past six months are 24,633 tons, as compared with 38,420 tons corresponding time last year. July shipments are quoted at £4 17s. 6d. per ton, Alexandria to Hull.

Cake and Meal.—The market is practically dead. With regard to the United Kingdom the quietude usually apparent at this season of the year in the markets for feeding stuffs has had the effect of further reducing prices and no disposition is evinced to purchase either of spot or afloat parcels.

Cottonseed-Oil Notes.

It is stated that the National Cottonseed Oil Co. will rebuild its mill at Corsicana, Texas, which will be ready to commence operations and handle the seed crop of 1899.

The Laurens Cottonseed Oil & Fertilizer Co., of Laurens, is now operating a new ice-manufacturing plant in connection with its other extensive interests. The company also fattens a large number of cattle and supplies large quantities of beef, which is kept in cold storage.

A company is about to be capitalized in Florence, Ala., for the erection of a cottonseed-oil mill which will be one of the largest plants of the kind in North Alabama. The machinery for the mill will cost from $15,000 to $20,000, and will be fitted with every modern appliance.

The market in New Orleans for cottonseed products is quiet and prices about steady. The demand, both domestic and foreign, is limited in character. Receivers' prices are as follows: Cottonseed, $7 per ton (2000 pounds) delivered to the mills; cottonseed meal jobbing at the depot, $17 per short ton and $19.50 per long ton for export, f. o. b.; cottonseed oil, 18 cents per gallon for strictly prime crude, in bulk 16 cents, and 22 cents for refined oil at wholesale or for shipment; oilcake, $19.50 per long ton, f. o. b.; linters—A, 3½ cents per pound; B, 3⅛ cents; C, 2⅝ to 3 cents; hulls delivered at 12 to 17½ cents per 100 pounds, according to the location of the mills.

The annual excursion given by the Pennsylvania Railroad to the newspaper men of Baltimore, Washington and Philadelphia took place on the 2d inst. The itinerary embraced a four-days' outing from Washington to Cape May and return, the party numbering about 350 newspaper men and their wives, with other friends. The usual elaborate preparations had been made with the Stockton Hotel for the entertainment of the party, while the occurrence of the national holiday heightened to a great extent the festivities at the seashore. All the details of the trip were under the personal supervision of Assistant Passenger Agent George W. Boyd, Col. Frank N. Barksdale, chief of the bureau of advertising; Mr. Frank J. M. Wade, general baggage agent, and Chief Clerk McNicol, of the railroad company. Mr. Bernard Courlaender, district passenger agent, had charge of the Baltimore contingent, who were unanimous in their opinion of his high executive ability in affording the party so much enjoyment by his unremitting attention throughout the trip.

A paper on gold-mining in Georgia is contributed to the July number of the Journal of the Franklin Institute by William Tatham.

PHOSPHATES.

Phosphate Markets.

Office Manufacturers' Record.
Baltimore, Md., July 7.

The local market for phosphate rock has ruled rather quiet and transactions light, with values, however, very steady. There is but little demand from local manufacturers, and, as in other fertilizer material, there are few buyers at the moment. The reports from producing points are rather favorable and shipments for the month of June, both domestic and foreign, were larger than usual. The market in South Carolina is steady, with a good demand from coastwise ports and also some foreign inquiry. The movement in Florida, both in land and pebble rock, is of better volume, the shipments from Fernandina for June amounting to 20,018 tons, all foreign. Shipments of Florida rock from Savannah were larger for June and prospects for July are more encouraging from all the ports. Tennessee phosphate rock is about steady as to values, and at Mount Pleasant the work of development is being vigorously pushed. Among the charters reported last week in New York were the following: Norwegian steamer Linwood, 1056 tons, from Fernandina to east coast United Kingdom with phosphate rock at 17s., option Gothenburg 19s.; schooner Fanny Arthur, 584 tons, from Charleston to Norfolk with acid phosphate at $1.75, and British steamer St. Oswald, 1757 tons, from Tampa to the United Kingdom or Continent with phosphate rock on private terms. The estimated shipments of phosphate rock from Fernandina for the present month are placed at 25,000 tons.

Fertilizer Ingredients.

The market for ammoniates is quiet and stocks in the West light and firmly held by producers. There is very little demand from the East and light inquiry so far from Southern sources. Messrs. Thomas H. White & Co. in their circular for the month of June say: "Ammoniates during the past thirty days have suffered, like other merchandise, a reaction, after a three-months' activity with advancing prices. The late declines in wheat and cotton operate as a check upon business, and manufacturers are disposed to be conservative in their purchases of crude stock pending the uncertainty of the future value of these two great staples, the fluctuations in which so largely affect the course of prices of fertilizer materials. The product of the Menhaden fisheries is now offering freely, but is firmly held at quotations."

The following table represents the prices current at this date:

Sulphate of ammonia (gas)	$2 45	@	——
Nitrate of soda	2 25	@	——
Blood	1 85	@	1 90
Hoof meal	1 70	@	——
Azotine (beef)	1 80	@	——
Azotine (pork)	1 80	@	——
Tankage (concentrated)	1 65	@	——
Tankage (9 and 20)	1 80	and	10
Tankage (7 and 30)	17 00	@	17 50
Fish (dry)	20 00	@	——
Fish (acid)	12 00	@	——

Phosphate and Fertilizer Notes.

Mr. C. Seybold, of Jeannette, Pa., wants prices on phosphates in ton and carload lots.

The British steamship Hillcraig cleared last week from Savannah for Rotterdam with 650 tons of Florida phosphate rock valued at $6500.

Mr. George McKay, of Dunnellon, Fla., has just completed a new plant for the Dunnellon Phosphate Co., which will soon be put in operation.

Mr. A. C. Read, the well-known fertilizer magnate, has purchased the old Hoe factory in Nashville, Tenn., and intends to build a modern fertilizer plant on the site of the old factory. The erec-

tion of the plant will cost at least $100,000, and it will have a large output.

The following shipments of phosphate were reported last week from the port of Charleston, S. C.: Barkentine Elmiranda for Weymouth with 985 tons, and schooner Mary Curtis for Richmond, Va., with 560 tons. The total domestic shipments of phosphate rock from Charleston for the six months ending June 30 amounted to 81,800 tons, against 78,749 tons for the corresponding period last year.

There was considerable activity in phosphate rock at Fernandina, Fla., during the month of June, and shipments amounted to 20,018 tons, distributed as follows: Steamer Cheniston for London with 2585 tons and steamer Winnie for Rotterdam with 3852 tons, both by the Dunnellon Phosphate Co.; steamer Hillcraig for Rotterdam with 3925 tons, by J. Carstens; steamer Eclipse for Memel with 1756 tons, by the Dunnellon Phosphate Co.; steamer Newstead for Stettin with 3900 tons, by H. A. Ford, and steamer Symra for Rotterdam and Hamburg with 4000 tons. The estimated shipments for July are placed at 25,000 tons.

The South Financially.

The summary of business embarrassments compiled by Bradstreet's for the first half of 1898 indicates that the South is in a very healthy condition from a commercial standpoint, the number of failures and aggregate of liabilities being strikingly small. Of the total number (6429) of failures, 902 were in the Southern States. The latter number was nearly 12 per cent. less than in 1897, while the decrease in the whole country was but 8 per cent. The total liabilities in the United States was 23 per cent. less than in the first half of 1897. In the South the aggregate liabilities was less than one-half the amount in 1897. This is especially remarkable when contrasted with other section of the country. In New England the liabilities for the period under discussion were but 5 per cent. less than in 1897, while the number of failures was seventy-five more. In the group comprising New York, New Jersey, Delaware and Pennsylvania the liabilities exceeded the amount for 1897 by 12 per cent., while there were forty more failures in 1897.

Dr. B. E. Fernow, for many years chief of the division of forestry in the United States Department of Agriculture, has resigned his position to accept the directorship of the newly-established State College of Forestry at Cornell University. Dr. Fernow will have in his new position a more extended field of work, the university having a demonstration forest of 30,000 acres in the Adirondack mountains, and his progress will be watched with interest by all engaged in the lumber industry of the country.

George L. Phifer, steward of the North Carolina School for the Deaf and Dumb, Morgantown, N. C., writes to the Manufacturers' Record for information about machinery and processes for the distillation of essential oils, especially oil of sassafras, peppermint, wintergreen, tansy and pennyroyal. He says there is a great abundance of all of the materials growing in his neighborhood.

The South Carolina Co-educational Institute will be opened at Edgefield, S. C., this fall. It will be an advanced high school for boys and girls. Mr. F. N. K. Bailey, formerly of Williston, will be in charge of the school. A large and handsome building has been provided, and there will be ample accommodation for 100 boarding pupils, besides more than 100 day pupils.

LUMBER.

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

LUMBER MARKET REVIEWS.

Baltimore.

Office Manufacturers' Record,
Baltimore, Md., July 7.

The occurrence of the national holiday has restricted operations in the local lumber market to some extent, but there is, however, considerable business in the various lines. There is a better demand from yardmen, and boxmakers are purchasing liberally. Prices of box lumber and flooring are generally firm. Planing mills are busy, and prices for dressed lumber firm. Receipts of North Carolina pine have been moderate, and stocks at the moment are somewhat broken in certain grades of air-dried lumber. There is a steady demand for kiln-dried North Carolina pine, and a good inquiry, both for home and foreign trade. The movement in white pine is fair, and there is a better demand, with prices firm and stocks fairly well assorted. Cypress is quiet and steady, with prices unchanged. In hardwoods there is some demand from local and out-of-town dealers, and for oak, the better grades of walnut and for poplar there is considerable firmness to values. Shippers of hardwoods report a better trade, and a number of good orders have been received from the United Kingdom and Continent during the week.

Norfolk.

[From our own Correspondent.]
Norfolk, Va., July 4.

Now that the national holiday is on and the heated term with its accustomed quiet, causing a partial suspension of business in certain lines, the lumber market here is about steady. There is only a moderate demand from Northern and Eastern points and the principal business is in a local way. The stocks of lumber at all mills in this section are light and the assortment somewhat broken in certain cases. Box lumber is still in good demand and prices are generally firm for all desirable stuff. For building purposes there is considerable lumber going into consumption, and for general improvements and betterments there is a good demand for material. Planing mills are generally busy, and for dressed lumber prices are steady. Nearly all woodworking concerns here are now very busy and orders are coming thick and fast for crates, boxes, etc., while values are generally firm. Lumber freights are easier, with a fair offering of handy-sized tonnage. Shipments of lumber during the past week have been heavy. The rates to New York and Sound ports are $2.10 to $2.25, to Baltimore $1 and from North Carolina sound ports to Baltimore rates are quoted $2.40 to $2.50.

Savannah.

[From our own Correspondent.]
Savannah, Ga., July 4.

The market for lumber has been rather quiet, owing, perhaps, to the occurrence of the national holiday, and shipments have fallen off somewhat. There is, however, a good inquiry for desirable lumber and mills are generally well supplied with orders. The tone of trade on Saturday was moderately active and the week closed with values firm at the following quotations: Minimum yard sizes, $11; car sills, $11.50; difficult sizes, $12.50 to $14; ship stock, $16.50 to $18; sawn crossties, $9.50 to $10; hewn crossties, 33 cents per tie, all f. o. b., the market closing with a fair inquiry. The shipments of lumber were mostly by steamer, New York taking 569,820 feet of lumber and 6920 staves and Baltimore 126,412 feet. The offering of tonnage is liberal and rates are easier. Charters reported in New York during the week were as follows: Schooner Carrie Strong, 412 tons, from Savannah to Philadelphia with lumber on private terms; schooner C. H. Valentine, 536 tons, from Brunswick to New York with lumber at $4.50, and schooner R. M. Walls, 561 tons, from Brunswick to Philadelphia with lumber at $4.37½ and crossties 14½ cents. The rates of freight from this port are quoted at $4.50 to $5.50 for a range including Baltimore and Portland, Maine. Steamer rates to Baltimore are quoted at $6, to New York and Boston $7 to $7.75.

Jacksonville.

[From our own Correspondent.]
Jacksonville, Fla., July 4.

The movement in wood products at this port for the month of June was more satisfactory, and as plenty of vessels were offering at lower rates, the shipments of lumber was very much facilitated thereby. The demand for yellow pine from Northern centers is good and mills in this section have some good orders on file at the moment. The outlook generally for the industry is more encouraging and the business for the present month promises to be of greater volume than last. The Clyde Line is making arrangements for carrying out as much lumber as is offered and has placed the steamer New York in service, in addition to the Algonquin and others. She will arrive here about the 13th inst., this addition having been necessitated by the increased summer business between Jacksonville and New York, other available steamers of the Clyde Line being under charter at present to the United States government as transports. The increase in lumber shipments for the month of June is about 35 per cent. over those of the month of May, the total shipments, both foreign and domestic, being 9,765,775 feet, against 7,520,447 feet for May and 12,233,567 feet for April. The only vessel which entered from a foreign port was from Barbados, and of those which cleared for foreign ports two were for England, one for Martinique and one for French Guiana. The foreign exports of lumber amounted to 1,253,755 feet. Rates on lumber to Northern and Eastern points are easier and there is a liberal offering of tonnage. Charters reported in New York last week were as follows: A schooner from Jacksonville to New York with kiln-dried lumber at $4.75; schooner Warwick, 580 tons, from Jacksonville to New York with lumber at $4.87½, and schooner Ella M. Storer, 427 tons, from Jacksonville to Philadelphia with lumber on private terms.

Mobile.

[From our own Correspondent.]
Mobile, Ala., July 4.

The week under review has been quiet in both timber and lumber circles and the volume of business shows no expansion. Freights are still above the views of shippers and there are very few charters being closed for vessels from this port. The demand for sawn timber is light, and the market is a shade firmer at 9½ to 9¾ cents per cubic foot, 40-foot basis. Hewn timber when placed upon the market will bring 11 to 12 cents per cubic foot, basis of 100 cubic feet, average B1 good. Hewn oak and poplar are dull, with quotations nominal. There is a fair demand for cypress at 6 to 9 cents per cubic foot, according to average. The lumber business is slightly improved, but still business is quiet, with the demand moderate from the usual sources. Saw mills are generally busy in sections adjacent to Mobile and manufacturers are generally supplied with orders, but are not by any means rushed. Prices for all desirable lumber are generally very steady. The shipments from this port during the past week were as follows: Bark Fritz Gustaf for Brest, France, with 17,393 cubic feet of hewn timber and 86,148 feet of lumber; bark Enterprise for Brest, France, with 15,223 cubic feet of sawn timber, 76,167 cubic feet of hewn timber and 16,272 feet of lumber. The bark John R. Stanhope cleared for Buenos Ayres with 291,000 feet of lumber; bark Dumblaine for Wolgust, Germany, with 549,501 feet of lumber, and other shipments to the Bahamas and Central America amounting to 50,000 feet of lumber. Charters from the port of Pensacola were done last week at 127/6 for sawn timber to Alexandria, and to United Kingdom or Holland at or about 115/ and 117/6, July-August.

Lumber Notes.

The schooner Wesley M. Oler cleared from Charleston, S. C., last week with 854,244 feet of lumber for Boston, and schooner Bessie Whiting for New York with 395,000 feet.

Malette Bros., of Pearson, Ga., have purchased a fine saw-mill location on the Waycross Air Line extension, between Nicholas and Douglas, and will establish their extensive plant there as soon as possible.

The coastwise shipments of wood products from the port of Jacksonville, Fla., for the month of June amounted to 8,512,000 feet of lumber, 2,298,000 shingles and 18,000 crossties. The foreign shipments were 1,253,778 feet of lumber.

The Chihuahua Lumber Co., of El Paso, Texas, was chartered last week with a capital stock of $12,500. The incorporators are Peter Kirk and Thomas Kirk, of El Paso; James S. Gates, William Dale, William White and Thomas Dale, of Chihuahua, Mexico.

It is stated that the lumber industry at Chattanooga, Tenn., is in a most healthy condition. The outside demand for lumber is greater than it has been for years, and the local mills are flooded with orders that keep their plants working steadily, and some of them both night and day. The local demand was never better than at present.

The Turner, Day & Wordworth Manufacturing Co. of Kentucky has leased the Nashville Spoke & Handle Co.'s plant at Nashville for a period of five years at an annual rental of $3000. In addition to the plant in Nashville, the lessee also gets the use of three mills, one of which is located at Theta, Williamson county, another at Allgood, Putnam county, and the third at Pulaski, in Giles county.

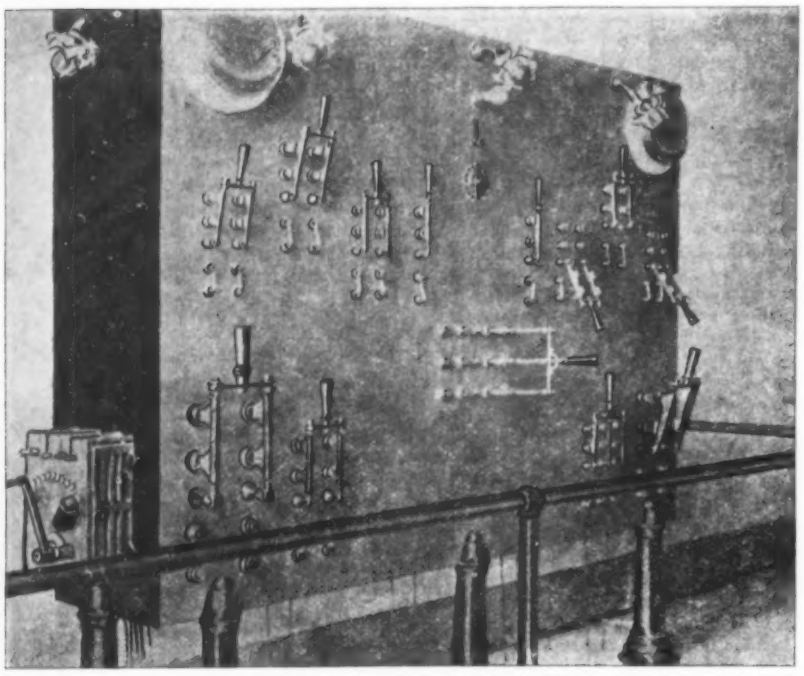
Messrs. J. W. Boyd & Co., of Scottville, Ky., manufacturers of hardwood lumber, write that the reports regarding their consolidation with the Union Lumber Co. was very premature. As a matter of fact the two companies have not consolidated, although the Boyd firm is considering a proposition submitted by the Union Company.

The Beutell Manufacturing Co., of Atlanta, Ga., has been entirely reorganized. Mr. W. T. Crenshaw has been elected president and general manager of the concern, with John M. Green, secretary-treasurer. The directors include Messrs. Crenshaw and Green, H. C. Stockdell, H. T. Inman, H. M. Atkinson, F. T. Ryan, Anthony Murphy. The Beutell Manufacturing Co. manufactures high-grade interior hardwood-finish store fixtures, showcases, bank and commercial furniture, embossed moldings, frescoing and wall decorations, etc.

MECHANICAL.

A Complete Switchboard.

In the installation of electrical specialties and the furnishing of electrical supplies the Utica Electrical Manufacturing & Supply Co. has acquired a reputation which stands it in good stead in competing for contracts. As an instance of the neatness and completeness of one of its pieces of work we illustrate herewith a switchboard. This switchboard was installed in a knitting mill in New York, and it has a combination of direct-current 110-volt system and 500-volt motor system. The photograph was taken the day before the installation had been entirely completed, there remaining undone the placing of the rheostat. The rheostat, afterward connected, is one of the round pattern.



A COMPLETE SWITCHBOARD.

The Utica Electrical Manufacturing & Supply Co. has its office and works in Utica, N. Y., where it produces electric-light and power appliances of great variety, and acts as electrical engineers and contractors. Mr. W. C. Balida, manager, can be addressed for any further particulars desired.

An Electric Locomotive.

The successful results obtained with electric factory locomotives by other mills in New England, notably at Whitinsville, Mass., and Taftville, Conn., attracted the attention of the managers of the Arlington Mills, at Lawrence, Mass., to the question of electric haulage, and, after examination, electricity as a motive-power was decided upon.

The electrical installation consists of a small generating plant and two electric locomotives, one of the box type and the other a platform car. The generating plant consists of a standard General Electric 75-kilowatt 500-volt railway generator, driven by belt from an Armington & Sims high-speed engine. The generator readily answers all calls upon it, with absolutely no heating or sparking, although it is occasionally subjected to very heavy overloads, when both cars are handling a train of more than the usual number of loaded cars.

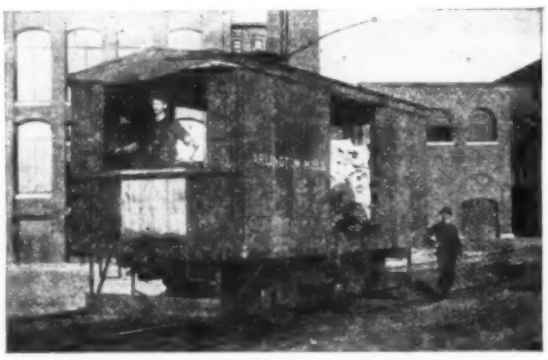


FIG. 1.—BOX-CAR LOCOMOTIVE.

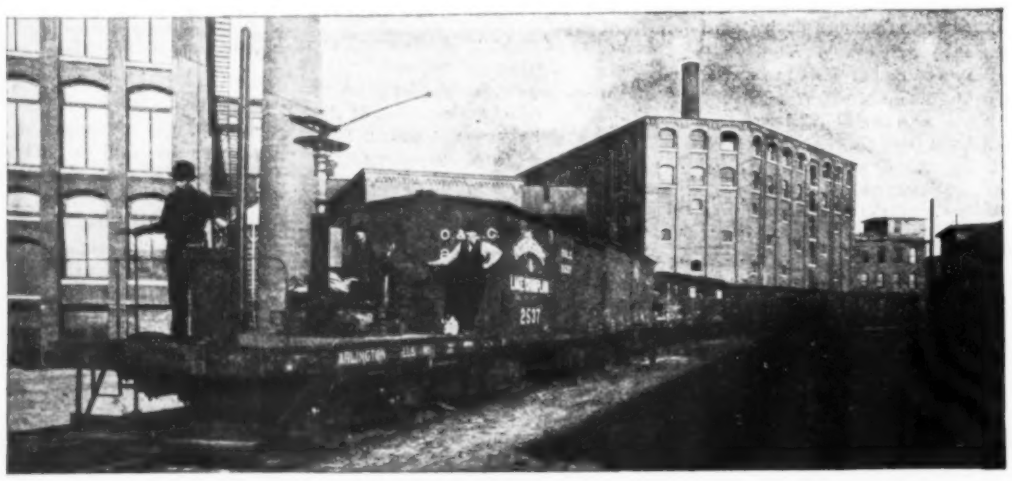


FIG. 2.—PLATFORM LOCOMOTIVE.

The box-car locomotive used for hauling material about the yards is shown in Fig. 1, and is equipped with two General Electric 800-27-horse-power motors and series parallel controllers. The platform locomotive is used to haul trains of loaded cars from the yards to the main line, and empties from the line to the mill tracks, and to do all the drilling in the yards. The equipment of this locomotive consists of two 50-horse-power General Electric 1200 motors, with the necessary series parallel controllers. In hauling heavy trains it is assisted by the box-car locomotive. Together they are able to handle trains of thirty to forty empties or twelve to fourteen loaded cars with comparative ease and celerity. To give the necessary adhesion to the more powerful locomotive to enable it to handle heavy loads, about six tons extra is placed on the platform.

The cost of the entire electric plant is claimed to have been little in excess of one year's rental of a steam locomotive previously used. No more men are employed about the electric locomotive, the labor cost has not risen, and the consumption of coal is scarcely felt on the main plant; furthermore, the plant is always ready.

TRADE NOTES.

Emery-wheel Works Improving.—Business has been excellent this season with the Sterling Emery Wheel Manufacturing Co., of Tiffin, O. Notwithstanding that extensive improvements have been made to the plant this season, nearly doubling the capacity, the company has been obliged to operate a night force in its attempts to keep up with orders. The company makes emery and corundum wheels and grinding machinery.

Petersburg Iron Works.—The foundry of the Petersburg Iron Works Co., Petersburg, Va., was partially destroyed by fire on the night of the 25th ult., the entire plant narrowly escaping destruction. The remaining departments, however, escaped uninjured, and resumed work within half an hour after the fire was under control. The company has contracts for about 13,000 projectiles for the ordnance department of the army, and the bureau of ordnance of the navy, of 4, 7, 10 and 12-inch calibers, weighing from thirty-two pounds to 1000 pounds each, and is running its plant day and night. The foundry will be rebuilt at once, and the fire will cause no material delay in the execution of the contracts, on which they are now ahead.

Bliss Chicago Branch.—The E. W. Bliss Co., of Brooklyn, N. Y., well known as manufacturer of sheet metal-working machinery, has placed its Mr. W. S. Smith in charge of the Western branch, 96 West Washington street, Chicago, which position has been held for a number of years by Mr. C. W. Ellsworth, who died recently in Cincinnati. Mr. Smith, who is a Westerner by birth, has been connected with the Bliss Company for some years.

The Earl & Wilson Company.—Messrs. Earl & Wilson, of Gastonia, N. C., proprietors of the improved sectional grate bar, have organized the Earl & Wilson Company and incorporated, with a capital stock of $10,000, to manufacture and introduce the device which they control. In the near future the company hopes to establish a foundry of its own for the making of the bars. Officers of the new company are: E. L. Wilson, president; W. Morris Earl, patentee and vice-president; W. H. Wilson, secretary-treasurer.

Price-reduction Notice.—Reduced prices on Auramine are announced as follows: Auramine 11, sixty-two cents; Auramine 0, $1.75. Attention is called to the fact that Auramine 0 is more than three times stronger than Auramine 11.

3 pounds Auramine 11 at 62c...	$1.86
1 pound Auramine 0.....	1.75
Saving in the use of Auramine 0	.11

In other words, Auramine 0 is more than 6 per cent. cheaper than Auramine 11. Messrs. A. Klipstein & Co., 122 Pearl street, New York, N. Y., make the announcement given.

Power-Transmission Equipment.—A large contract for power-transmission equipment has been placed with Messrs. A. & F. Brown & Co., of 25 Day street, New York city. The order calls for about ten carloads of machinery to be installed in a California sugar refinery, and more is yet to be ordered. Messrs. A. & F. Brown have a most complete plant at Elizabethport, N. J., known as the Progress Machine Works, for the production of power-transmitting machinery, friction clutches, steam sirens, factory and fire signals and special machinery. Address all communications to the New York office.

General Electric Company.—The directors of the General Electric Co. have recommended a reduction in the share capital of the company, both common and preferred, of 40 per cent., so that each holder of 100 shares of present stock will get sixty shares of the new stock. This settlement, while satisfactory to the common stockholders, is regarded as particularly favorable to the preferred shareholders, inasmuch as it will render unnecessary the taking of any steps for the liquidation of the company, in which event the preferred stockholders would receive only the same amount as the common stockholders and no back dividends. The plan now adopted contemplates the payment from the surplus earnings of the company as they are hereafter made of the accrued dividends on the preferred stock. On the basis of the new capitalization $1,275,000 will be required annually to pay 7 per cent. upon the preferred stock and 6 per cent. upon the common stock. Stockholders' meeting will be held August 10 at Schenectady, N. Y.

High-grade Bicycles.—The old maxim, "the best always the cheapest," is especially applicable nowadays in the matter of bicycles. There are many different makes of bicycles on the market, most of them being referred to by their makers as "high grade," but many of which are anything but what that term should really signify. To state that "Tribune" bicycles are high grade in the strictest sense of the word is but to voice the opinion of thousands of riders of that well-known wheel and the expert opinion of connoisseurs in fine machine work. The "Tribune" is built by the Black Manufacturing Co., of Erie, Pa., and this year, in response to the demand, it has produced a new model at a figure ($50) possible to most pockets, and, besides this model, there are several others which comprise in their construction all that the most exacting and fastidious of riders could demand. The agents in Baltimore for the Black Company's wheels is the Tribune Cycle Co. (John J. McElroy, H. Jerome Hush), with establishment at 105 West Fayette street. The Baltimore company handles also the "Arena" and "Elfin" cycles, and all accessories, including the "Lerch" saddle.

CONSTRUCTION DEPARTMENT.

***Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery Wanted."**

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the Manufacturers' Record.

It often occurs that the organization of a new company in any town is not known by the postmaster, and hence letters addressed to the company are returned marked "not known." The Manufacturers' Record reports the first organization of all companies, and our readers, in seeking to get into communication with them, should be very careful in deciding how to address them, and even then they must expect the return of some letters, because of the lack of knowledge on the part of postmasters of all new companies. Criticisms and complaints are invited, as they will the better enable us to guard against errors.

ALABAMA.

Anniston—Foundry and Machine Shops.—The Smith-Kilby Company has purchased the Murray & Stevenson foundry and machine shops, and will operate same.

Bessemer — Water-works Improvements.—The Bessemer Water Works is contemplating various and extensive enlargements.

Birmingham—Rolling Mill.—The Alabama Rolling Mill has closed down to make repairs; will resume in a few weeks.

Birmingham—Smelting Works.—The Birmingham Smelting Works are doubling the capacity of its plant. The works are operated by the Bates Manufacturing Co.

Florence—Oil Mill and Machine Shop.—C. W. Ashcraft has about assured the organization of the $10,000 company proposed for the erection of cottonseed-oil mill and machine shop.

Fort Payne—Cotton Mill.—A report connects W. M. Howard with the project of erecting a cotton mill.

Mobile—Car Works.—The Mobile Light & Railroad Co. will erect its car plant at Monroe Park. The plant will be a complete one for the manufacture of motor cars as well as trailers.

Montgomery — Street Improvements.—An ordinance has been adopted by the city council providing for the paving of Moulton street, from the south side of Bibb street to the south side of Tallapoosa street, with vitrified brick. Address "City Engineer" or "The Mayor" for information.

Uniontown—Oil Mill.—The Uniontown Cotton Oil Co., reported last week as organized, has awarded contract for the erection of its cottonseed-oil mill complete; capital to be invested is $40,000; J. H. White, manager.

ARKANSAS.

Little Rock—Water-power Development.—George C. Strong (formerly of Peoria, Ill.,) has been in conference with the Board of Trade relative to the formation of a company to develop the water power of the Ouachita river, near Rockport. It is proposed to construct a dam 1100 feet long and 15 feet high, to cost $70,000, to run turbines which will in turn generate electricity for distribution for use in manufacturing and other power-using plants. Address George C. Strong, care of George G. Harkness, secretary Board of Trade.

Mena—Slate Company.—Incorporated: The Eureka Red Slate Co., capital stock $10,000, by E. M. Cockrell, F. G. Cockrell, W. I. Boyer and K. M. Boyer.

Pine Bluff — Real Estate.—Incorporated: The Hanff Addition Co., capital stock $5000, by V. D. Wilkins, Charles A. Bloom and Simon Bloom.

GEORGIA.

Augusta—Flour Mill.—Leroy J. Miller will erect a flour mill of brick, two and one-half stories, and to be equipped with the latest machinery.

Barnesville—Flour Mill and Electric-light Plant.—A roller-process flour mill of sixty barrels capacity daily and an electric-lighting plant have been installed in the Samuel Benedict Memorial School.

Cartersville—Iron Foundry.—Thomas H. Withers will doubtless rebuild his burned iron foundry.

Covington—Cotton Mill.—The Porterdale Mills will erect an addition to be equipped with 15,000 spindles, and general improvements will net a cost of $150,000; J. F. Hanson, president, of Atlanta, Ga.

Thomaston—Shoe Factory.—The A. W. White Shoe & Leather Co. will erect and operate a shoe factory; company has been operating a tannery.

Waycross—Saw Mill.—Malette Bros., of Pearson, will erect saw mill at Waycross.

KENTUCKY.

Covington—Bridge.—The Chesapeake & Ohio Railway Co. has presented an ordinance to the city council for the right to construct a bridge, two spans, seventy-five feet each, across its tracks at Fifteenth street. Address W. T. Smith.

Lexington—Stock-yards.—The Union Stock-yards Co. has been incorporated, with capital stock of $6000, and purchased the yards of Carthers & Beard; S. L. Vanmeter, president.

Louisville—Stove Foundry.—Bridgeford & Co. have purchased the property of the Progress Stove & Tin Manufacturing Co. for $13,000, and will improve and operate same.

Middlesboro—Barrel Factory.—J. W. Nesbitt, operating a stave mill near Ewing, Va., will probably establish a plant in Middlesboro for manufacturing barrels.

LOUISIANA.

Alexandria—Sugar Factory.—F. M. Polk is reported to have completed arrangements for the erection of a 500-ton sugar factory.

Crowley — Water-works Improvements.—The town council has passed an ordinance authorizing an additional bond issue of $9000 to be expended in water-works extensions; contract for the improvements has been virtually closed. Address "The Mayor."

Crowley—Rice Mill.—A company has been organized, with a capital stock of $20,000, for the purpose of erecting and operating a rice mill; site has been bought and contract let for building 40x49 feet, four stories high, two-story warehouse, 100x150 feet; contract has been let also for equipment of machinery for capacity of 400 barrels daily; J. D. Crowley, president; J. M. Goggins, of Eagle Pass, Texas, vice-president, and J. H. Lewis, secretary. Address the secretary.

Monroe—Cotton-picker Company.—Incorporated: The Gooings Cotton Picker Co., capital stock $42,000, by Martin B. Goolings, Charles J. Boatner and W. B. Reilly, to manufacture and introduce a new cotton picker.

Monroe—Lumber Company.—The Monroe Lumber Co., Limited, has been incorporated, with capital stock of $150,000, by N. C. Chapman, C. S. Chesbro and others; N. C. Chapman is president; C. Marbes, vice-president; Robert B. Blanks, treasurer, and C. S. Chesbro, secretary.

Shreveport—Bridges.—The county will construct eight bridges; A. L. Duringer, county clerk.*

MARYLAND.

Baltimore—Factory.—Jackson C. Gott has completed plans for the erection of a large brick and stone factory, 50x75 feet, to cost $15,000.

Baltimore—Export and Commission Company.—The Maryland Export & Commission Co. has been incorporated, with a capital stock of $25,000, by Murray Vandiver, of Harford county; William H. Stellman, Harry W. Rusk and J. Krebs Rusk, Jr., of Baltimore. For information address the last-named.

Centreville—Shirt Factory.—Work has been commenced on proposed factory building 150x36 feet, one story, with space for 100 sewing machines; separate house will be built for power plant and probably electric-lighting plant. Fred H. Burgess will lease the property and establish a shirt factory, employing 115 hands, and having capacity daily of 400 dozen shirts.

MISSISSIPPI.

Cedar Bluff—Handle Factory.—The West Point Handle Works will erect a handle factory of 100 dozen capacity daily; Louis P. Leland, agent, West Point, Miss. (The Standard Handle Co., of Knoxville, Tenn., owns the West Point factory, noted below, and will own this one.)

West Point—Handle Factory.—The West Point Handle Works will rebuild its burned factory, to have a daily capacity of 100 dozen; Louis P. Leland, agent, can be addressed. (See under Cedar Bluff, Miss.)

MISSOURI.

Benton County — Lead Mining.—W. S. Shirk, of Sedalia, will develop lead-ore deposits in Benton county.

Joplin—Mining, etc.—The Muncie Land & Mining Co. has been organized, with capital stock of $80,000, to develop mining leases, by A. L. Johnson, of Muncie, Ind.; Thomas Morgan, Albert Baker, J. E. Stilwell.

Joplin—Machine Shops.—William Buttrum and W. S. Boyd will establish machine shops; contract for erecting building has been let to J. F. Barden.

Joplin—Iron Foundry.—McKenna & Co. will establish an iron foundry; contract for 35x70-foot building let to Al Overby.

Poplar Bluff—Sewerage System.—W. H. Hipolite, city engineer, has been instructed to locate a route for conduits for proposed sewerage system.

St. Louis—Chartered: The Fitzsimmons-Holstron Co., with a capital stock of $4000, by J. F. Fitzsimmons, T. W. Holstrom and W. F. Naughton.

St. Louis—Fruit Company.—The St. Elmo Hills Fruit Co. has been incorporated by L. W. Day, John Dowaman and James Axtell with a capital stock of $40,000.

St. Louis—Realty Company.—Chartered: The De Baliviere Realty Co., by W. M. Blee, E. S. Warren, R. W. Collins and others; capital stock $30,000. Address W. M. Blee.

St. Louis—Furniture Company.—Chartered: The Hoevel Furniture Co., with a capital stock of $2000, by Aug. Hoevel, W. R. Blair, Louise Hoevel and others. Address Aug. Hoevel.

St. Louis—Orchard Company.—The American Orchard Co. has been incorporated, with a capital stock of $100,000, by L. W. Day, J. E. Hereford and J. W. Darst. Address L. W. Day.

St. Louis—Buffet Company.—Incorporated: The Woodbine Buffet Co., capital $5000, by Hermann Fleckmeyer, A. B. Stickels and H. B. Davis.

St. Louis—Pump Company.—The Hooker Steam Pump Co. has filed articles of incorporation, with a capital stock of $30,000, by J. E. Gorman, W. D. Hooker, W. C. Farrar and R. L. McLaran.

Sutter — Dairy.—Incorporated: The Todd Merryman Dairy Co., capital $10,000, by R. Q. Johnson, J. F. Merryman, Todd Merryman and others.

NORTH CAROLINA.

Durham—Cotton Mill.—The Durham Cotton Manufacturing Co. will install in its new addition, noted last week, an equipment of 5400 spindles and 160 looms.

Fayetteville—Acetylene-gas Plant.—J. R. Williams, lately reported as having received franchise for the establishment of an acetylene-gas plant, has, with Herbert Lutterloh and others, organized the Fayetteville Electro Gas Co. The plant has been ordered, and will be in full operation in three or four weeks.

Gastonia—Iron Foundry.—The Earl & Wilson Company, recently noted as incorporated, hopes in the near future to erect a foundry for the manufacture of its patented improved sectional grate bar. Capital stock has been placed at $10,000, and E. L. Wilson is president; W. Morris Earl, vice-president, and W. H. Wilson, secretary.

Greenville—Tobacco Factory.—M. P. Jordan & Co., of Danville, Va., and Greenville, N. C., are erecting their new factory in Greenville; building will be three stories high, 100x60 feet, equipped with modern machinery, etc., for the manufacture of tobacco.*

Guilford County—Coal Mines.—Samuel P. Langdon, of Philadelphia, Pa., has purchased for $30,000 a tract of coal land of 1675 acres in Guilford county; will develop same thoroughly.

Kinston—Cotton Mill.—The Kinston Cotton Mills, reported recently as incorporated, has placed order for its machinery; building is being erected; yarn will be the product; W. C. Fields, president.

Pittsboro—Coal Mining and Land Company.—The Taylor Place Coal Mining & Land Co. has been chartered, with a capital stock of $100,000, to mine, quarry and sell coal, fireclay and brownstone.

Rutherfordton—Gold-extracting Mill.—E. Warren is erecting a mill for extracting gold by a new process; machinery all contracted for.

Scotland Neck.—The M. A. Smith Manufacturing Co. contemplates putting new machinery in its knitting mill.

Weldon—Corn Mill.—The Weldon Corn Mill is adding four stone runners to its corn mill and contemplates putting in flour mill later, as mentioned during the week, but as yet has not decided as to capacity, etc.

SOUTH CAROLINA.

Abbeville—Electric-light Plant.—The Abbeville Cotton Mill Co. contemplates putting in its mill an electric-lighting plant.

Clio—Cotton Mill.—Red Bluff Mills has decided to install 100-horse-power steam plant, to duplicate water-wheel plant.*

Nesbitt—Flour Mill.—S. N. Nesbitt & Bro. have let contract for erection of flour mill mentioned during the week. Will not need any machinery at present.

Spartanburg—Flour Mill.—Ebaugh, Hunter & Co. will rebuild their burned flour mill.

Spartanburg — Vehicle Factory.—T. A. Greene will establish a carriage and buggy factory.

Spartanburg—Electric Plant.—Work will begin about July 15 on the erection of the new electric plant, to be operated by water-power from McMillans shoals at Paris bridge. The company has purchased about three miles along the river, and will construct a dam forty feet high.

Williamston—Bottling Works.—The Williamston Carbonating Water Co. has been organized for the purpose of bottling soda water and ginger ale manufactured from the chalybeate water from Williamston's mineral spring.

Yorkville—Cotton Mill.—The Yorkville Cotton Mills is putting in 672 spindles and 320 twisters; present mill has 4720 spindles.

TENNESSEE.

Chattanooga — Packery.—The Chattanooga Packing Co. has been incorporated by Robert Scholze, Alfred Scholze, Joseph Scholze and John Shamotulski to operate a packery operated in connection with the ice factory now being erected.

Clarksville—Brick Works.—E. H. Wilkerson & Co. have purchased and will operate the Settle Brickyard; in addition to making machine-pressed brick, the company will manufacture hand-made brick.

Jamestown—Oil Refining, Stave Manufacturing, etc.—The Southern Oil & Manufacturing Co., lately reported as organized, has purchased and will thoroughly develop certain oil and gas leases. The company will erect a refinery soon at East Port, and will also manufacture staves for its own use.*

Lawrenceburg—Stave Mill.—A Louisville (Ky.) firm will establish a stave mill near Lawrenceburg.

Mount Pleasant—Phosphate Plant.—J. H. Carpenter, of Solita, Tenn., and F. Hardy, of Baltimore, Md., will establish a phosphate plant, crushing rock, developing mines, etc.

Nashville—Spoke and Handle Factory.—The Turner, Day & Woolworth Manufacturing Co., of Kentucky, has leased and will operate the Nashville Spoke & Handle Co.'s plant.

TEXAS.

Beaumont—Creosoting Plant.—The establishment of the large creosoting plant is being pushed rapidly to completion. The capacity will be from 35,000 to 40,000 feet of lumber daily; Capt. J. W. Byrnes, manager, can be addressed.

Beaumont—Flour Mill.—The erection of a 100-barrel flour mill is talked of and a stock company is proposed; T. W. Shepherd can be addressed.

Campbell—Blacksmith Shop.—Lewis Whaley will establish a blacksmith shop.

El Paso—Lumber Mills.—The Chihuahua Lumber & Manufacturing Co. has been incorporated, with a capital stock of $12,500, to conduct a general lumber manufacturing business, by Peter and Thomas Kirk, of El Paso; James S. Gates, William White and William and Thomas Dale, of Chihuahua, Mexico. Address Thomas Kirk.

El Paso—Mining, etc., Company.—The Browne & Mauzanares Company has been incorporated by Lawrence P. Browne, F. A. Mauzanares, C. N. Blackwell and Millard W. Browne, of New Mexico, for the purpose of conducting a general mercantile and mining business; capital stock $150,000.

Galveston — Compress, etc.—Incorporated: The Merchants & Planters' Compress & Warehouse Co., capital stock $125,000, for

operation and maintenance of compress and warehouses, for the compression and handling of cotton, for the storing, buying and selling of cotton, etc.; incorporators, J. D. Kempner, D. W. Kempner and Joseph Sinsheimer. Address D. W. Kempner.

Grandview—Flour Mill, etc.—J. E. Autrey is putting in a small flouring mill and corn cleaner, as recently noted; flour mill to have forty barrels capacity; most of the machinery contracted for.

Houston—Sewerage, etc.—An ordinance has been introduced in the city council providing for the issuance of $100,000 of bonds for sewerage and paving purposes. Address "The Mayor."

Houston—Boot, Shoe and Hat Company.—Chartered: The Houston Boot, Shoe & Hat Co., with a capital stock of $20,000, by J. L. Souza, J. B. Cochran and Alexis M. Jacobs. Address J. B. Cochran.

Lexington—Mercantile.—Incorporated: The Lexington Mercantile Co., capital stock $1000, by Samuel G. Tomlinson, A. T. Blake and P. G. Ryan.

Taylor—Cotton Ginnery, Oil Mill, etc.—Williams Bros. have purchased the Taylor Cotton Seed Oil & Gin Co.'s plant; will put in at once a new ginnery of 120 bales capacity daily, with 200-horse-power boiler, 150-horse-power engine, eight gin stands, etc.; will also erect a new cottonseed-oil mill of seventy-five tons capacity per day.

Victoria—Oil Mill, etc.—The Victoria Cotton Oil Co. has been purchased by a new company of $32,000 capital to continue the cotton-oil mill, etc.; will also put in machinery for working about 10,000 bushels of flaxseed; E. H. East, president; J. M. Brownson, secretary, and C. W. Vanordstrand, manager.

Weatherford—Hardware.—Incorporated: The R. E. Bell Hardware Co., by Robert E. Bell, Robert F. Bell, W. A. Brevard and John L. Bell; capital stock $50,000.

VIRGINIA.

Harrisonburg—Flour Mill.—The Beery & McFall Milling Co. is putting considerable new machinery in its flour mill.

Max Meadows—Iron Mines.—S. A. Marshall, of Port Royal, Va., has leased the iron-ore and pyrites mines on the property of Dr. Samuel Sayer, near Max Meadows, and will extend operations.

Newport News—Bridges.—An ordinance has been passed by the city council providing for the issuance of $40,000 of bonds for the construction of three bridges over the Chesapeake & Ohio Railway at various street crossings. Address "The Mayor."

Norfolk—Sewerage.—The city will appropriate $10,755.60 from the Andrews Estate for the construction of sewerage on two streets. Address City Engineer Brooke.

Norfolk—Mercantile.—Incorporated: The J. W. Hunter Co., Limited, by James W. Hunter, Lycurgus Berkley, Merriwether Winston and L. C. Hall, to sell dry goods, notions, boots and shoes. The capital stock is to be $25,000.

Portsmouth—Real Estate Company.—The Richmond Borough Co. has been incorporated for the purpose of developing and disposing of manufacturing and industrial property. The capital stock is to be not less than $250,000 nor more than $5,000,000. Officers—president, Samuel B. Lawrence, Manhattan borough, New York; vice-president and treasurer, John B. Summerfield, Brooklyn borough, New York; secretary, Henry C. Everdell, Brooklyn. Directors—S. B. Lawrence, John B. Summerfield, Henry E. Everdell, Armitage Matthews and James W. Wilcox. Address for information Samuel B. Lawrence.

Richmond—Tobacco Machinery.—Incorporated: The Universal Stripping Machine Co., to buy and sell patent rights and manufacture and sell machinery used in handling, selling and buying tobacco. The capital stock is $300,000; C. E. Buck is president.

Sudley Springs—Flour Mill.—Fetzer Bros. expect to rebuild next fall their 25-barrel roller-process flour mill.

WEST VIRGINIA.

Charleston—Mining.—The Semper Felix Mining Co. has been incorporated, with a capital stock of $5,000,000, for mining purposes, by J. E. Chilton, J. E. Scaggs, W. E. Chilton, John F. Noyes and Charles N. Smith. Address J. E. Chilton.

Charleston—Mining, etc., Company.—The Little Coal River Railroad & Mining Co. has been incorporated by H. J. Toudy, Joshua O. Lee, H. M. Queen and A. R. Shaffer, of New York; capital stock $150,000.

Enterprise—Coal Mines, etc.—F. W. McIntyre and others have purchased the mine property of Samuel Hines & Co. and will operate same under the name of the Star Coal & Coke Co. Application has been made for charter. C. D. Junkins, Fairmont, W. Va., can be addressed for further information.

Morgantown—Brick Works, etc.—A company has been organized for the manufacture of all kinds of fire and paving brick and pottery. Names of interested parties will be announced later.

Sistersville—Oil Lease.—The Ocragon-Mahone Oil Co. has sold a lease of 108 acres and eight producing wells to a new syndicate for $20,000.

BURNED.

Alexandria, Va.—Bottling-house of Portner Brewing Co.; loss $10,000.

Louisville, Ky.—Globe Refining Co.'s oil (cottonseed) refinery, etc.; loss $200,000.

Malvern, Ark.—Oak Leaf Milling Co.'s mills.

Richburg, S. C.—Fishing Creek Manufacturing Co.'s mill of 1400 spindles, etc.

Roanoke, Va.—Hotel Roanoke; loss $40,000.

Spencer, W. Va.—Holl & Kyer's planing mills.

Thomasville, Ala.—The depot of the Mobile & Birmingham Railroad. Address T. G. Bush, president and general manager, Anniston, Ala.

BUILDING NOTES.

Aiken, S. C.—Dwellings.—Miss Sarah E. Joye will erect a dwelling; Mrs. Carrie E. Lamar has contracted with George Seastrunk for the erection of a dwelling.

Baltimore, Md.—Dwellings.—Sidney McCall will erect a row of dwellings.

Baltimore, Md.—Dwelling.—F. B. Hooper will build $4500 residence after plans by G. F. Barber & Co., Knoxville, Tenn.

Baltimore, Md.—Dwelling.—J. Evans Sperry is completing plans for $30,000 frame cottage for Henry Janes.

Baltimore, Md.—Buildings.—Permits have been issued to L. I. German to erect seven three-story brick dwellings, cost $1500 each; to Francis E. Pegram to erect a two-story brick addition, cost $2500.

Baltimore, Md.—Dwellings.—E. B. Hunting and Edwin Bennett to build six three-story dwellings; C. E. Powers to erect four brick three-story dwellings; E. S. Powers to erect eight three-story dwellings.

Barnesville, Ga.—Church.—Plans for proposed new Methodist church building have been submitted by L. P. Hudson.

Beaumont, Texas—Cottages.—R. R. B. Henry has contracted for $2800 residence; Prof. C. F. Johnson for a four-room cottage.

Bowling Green, Mo.—Dwelling.—I. W. Basye will erect $7500 residence after plans by G. F. Barber & Co., Knoxville, Tenn.

Carrollton, Ky.—Business House.—W. T. Hill and T. J. Cunning, of Port Royal, Ky., have awarded contract to M. I. Barker, of Carrollton, for the erection of a business house, two stories, 70x104 feet, brick, iron and plate-glass fronts, etc.

Carthage, Texas—Bank Building.—Bids will be received at the Bank of Carthage until July 16 for the erection of a two-story brick bank building. Plans and specifications to be seen at bank or at the office of Alfred Giles, architect, San Antonio, Texas. Usual rights reserved.

Charlotte, N. C.—Dwelling.—Frank P. Milburn is preparing plans for a residence for G. T. Vann.

Charlotte, N. C.—Residence.—S. Witkowsky will build a $4000 residence after plans by Frank P. Milburn.

Chattanooga, Tenn.—Warehouse.—Adams & Bearden have completed plans for a warehouse for L. E. Montague.

Claremont, Va.—Residence.—Bids will be opened July 16 for the erection of a residence for George H. Woods; plans and specifications can be seen at office of Architect W. C. West, Richmond, Va.

Como, Miss.—Dwelling.—J. B. Wordlaw will erect $2800 dwelling; plans now ready.

Crewes, Va.—Dwelling.—C. E. Wilson will erect $4500 dwelling after plans now on hand.

Dahlonega, Ga.—Church.—The Presbyterian congregation is considering the erection of a new church building. Address "The Pastor."

Dahlonega, Ga.—Residence.—W. P. Price will erect a residence.

Dallas, Texas—Residences.—Mrs. G. Kanady to erect $18,000 residence; M. H. Turner to erect $7000 residence.

Danville, Va.—Temple.—Roman Eagle Lodge, A. F. & A. M., has selected the design for new temple to cost $50,000 by Frank P. Milburn, of Charlotte, N. C.

Dawson, Ga.—Residence.—Plans by G. F. Barber & Co., Knoxville, Tenn., for $3500 residence for J. D. Laing.

Durham, N. C.—School.—Bids will be received until July 29 for the construction of a schoolhouse in Hayti; plans and specifications on view; J. S. Manning, secretary committee.

Fayetteville, Ark.—Dwelling.—N. B. Williams will erect $2500 dwelling; plans ready.

Fort Smith, Ark.—Church.—Proposals will be opened July 14 for erection of church building, to be of stone; plans and specifications now on view. Address H. L. Goddard, architect.

Greensboro, N. C.—Depot.—Contract for erection of depot for Southern Railway has been awarded to D. Getaz & Co., Knoxville, Tenn.

Greensboro, N. C.—Residence.—Mr. Geo. A. Mebane will erect a residence.

Greensboro, N. C.—Steam Laundry.—The State Normal and Industrial College will erect a large kitchen and steam laundry, and probably an additional building, as mentioned in last issue. Address Charles McIver, president.

Jasper, Ala.—Dwelling.—Plans ready for $3800 residence for J. H. Bankhead.

Kansas City, Mo.—Theater.—It is proposed to build a theater to cost $75,000; D. O. Woodward can give information.

Leemont, Va.—Church.—T. H. Mitchell, of Salisbury, Md., has received contract at $4000 for the erection of a church building for the Methodist Protestant congregation. Address Rev. Avery Donovan, pastor.

Lexington, Ky.—City Building.—The erection of a city administration building is proposed. Address "The Mayor."

Louisville, Ky.—Warehouse.—Bridgeford & Co. will erect a new warehouse.

Louisville, Ky.—Cottages.—Permit has been issued to J. H. Kreischer for the erection of three frame cottages to cost $3600.

Mobile, Ala.—Theater, etc.—J. B. Webster has purchased property for $2100 which he will improve as a summer resort, improvements to include the erection of a theater, pavilion, etc.

Mooresville, N. C.—Church.—Bids will be opened July 18 for erection of church lately noted; plans by F. P. Milburn, Charlotte, N. C.; S. C. Rankin, chairman.

New Castle, Va.—Dwelling.—N. E. Spessard to erect $7500 dwelling after plans by G. F. Barber & Co., Knoxville, Tenn.

New Orleans, La.—Jail.—The city will appropriate $30,000 for the erection of a new jail building. For further information address "The Mayor."

Newport News, Va.—Edward Rudasil is to erect two-story frame building.

Norfolk, Va.—Engine-house.—A. T. Holmes has received contract for the erection of the proposed engine-house. Address City Engineer Brooke.

Norfolk, Va.—Office Building.—D. Lowenberg and others will erect a ten-story office building.

Ocala, Fla.—Barns.—McIver & Mackay have contract to erect two barns for Riche & Beaumont; barns to be 40x60 feet, forty feet high, and 60x80 feet, forty feet high.

Pablo Beach, Fla.—Hotel.—W. N. Emery has commenced the erection of a hotel.

Pratt City, Ala.—Residence.—Job Going will rebuild a residence.

Pride's Station, Ala.—Dwelling.—L. T. Pride will build dwelling to cost $3500; plans now ready.

Ripley, Miss.—Dwelling.—John Y. Murray, Jr., will erect $3500 residence after plans by G. F. Barber & Co., Knoxville, Tenn.

Sabine Pass, Texas—Wharves and Warehouses.—The Southern Pacific Railroad has purchased for $51,000 25,000 feet of waterfront and will erect wharves and warehouses; W. G. Van Vleck, manager, Houston, Texas.

Savannah, Ga.—Hotel.—The board of directors of the Savannah Hotel Co. are having plans prepared by W. G. Preston, of Boston, Mass., for thirty bathrooms to be added to the hotel at a cost of $15,000.

Shelbyville, Ky.—Dwelling.—S. C. Clubb has let contract to W. T. Hanks for erection of $2500 frame dwelling.

Spartanburg, S. C.—Auditorium.—An auditorium with seating capacity for 2000 to 4000, and to cost $12,000, will be erected; Dr. R. H. Peters is said to be interested.

Talbotton, Ga.—Parsonage.—Bids will be received for erection of parsonage; plans and specifications can be seen until July 10 at office of N. P. Carreker, chairman, Talbotton, or at office of P. E. Dennis, architect, Macon, Ga.

Towson, Md.—Bridge.—The Baltimore county commissioners are about to contract for the construction of a bridge across the Gunpowder river. Address B. H. Mays, superintendent bridges.*

Walhalla, S. C.—Stores, etc.—John D. Verner has contracted for the erection of 22x50-foot building, with iron front, one story; Mrs. Sophia Ritter has let contract for two-story 20x50-foot store and dwelling; D. Henderson, of Pelzer, S. C., has both contracts.

Walhalla, S. C.—Bank Building.—C. M. Guest, of Anderson, S. C., has prepared plans for bank building for J. D. Verner; the latter will want combination bank vault, plate-glass and cast-iron front.*

Washington, D. C.—Dwellings.—Thomas Dennis will erect two-story brick residence; W. H. Henderson, two two-story residences of brick; Charles H. Ruth will erect five houses; D. Henderson will erect a three-story brick house; Barr & Sanner will erect three houses, brick, 16x34 feet, brick and brownstone, etc.

Wilmington, N. C.—Dwellings, etc.—St. Luke's A. M. E. congregation to build a church; Thad F. Tyler to erect two two-story houses and three one-story houses; H. E. Bonitz to erect two-story house.

RAILROAD CONSTRUCTION.

Railways.

Aberdeen, N. C.—It is reported that work has begun on an extension of the Aberdeen & Rockfish road which will be four miles long. John Blue, at Aberdeen, may be addressed.

Cambridge, Md.—The company promoting the Cambridge & Chesapeake Railroad has organized with the election of Dr. Elias Jones as president. About a mile of this line has been graded. It is to receive a subscription of $75,000 from the county by act of the legislature.

Dorchester, Ga.—The Reidsville & Dorchester Railroad Co. has been formed to build a line from Dorchester, Liberty county, to Greenville and Reidsville, Tattnall county. The amount of the proposed capital stock is $100,000, in shares of $100 each. A charter has been applied for by George W. Perkins, of Tennille; Henry C. Perkins, of Augusta; W. C. Perkins and T. W. Hardwick, of Tennille; Dr. Wm. Rawlings, C. G. Rawlings and R. L. Warthen, of Sandersville; J. H. Perkins, of Macon; R. M. Martin, of Hinesville, and H. L. Perkins, of Wadley, Ga.

Galveston, Texas.—It is stated that about twenty-five miles of the Galveston, Brazos & Southwestern road have been graded. L. P. Featherstone, at Galveston, is one of the promoters of the enterprise.

Gloucester, Va.—The proposed railroad being promoted in the northern neck of Virginia by the Richmond & Tidewater Railroad Co. is indorsed by the Richmond Chamber of Commerce. Its route lies through Gloucester county. Among those interested is Gerard Hopkins.

Hattiesburg, Miss.—The report is again current that arrangements are being made to extend the Gulf & Ship Island Railroad in a northerly direction. It is stated that the extension will be about twenty-five miles long. S. S. Bullis, at Gulfport, Miss., is general manager.

Jacksboro, Texas.—It is reported that the extension of the Chicago, Rock Island & Texas Railroad, from Bridgeport to Jacksboro, has been completed to a point twelve miles beyond Bridgeport. S. B. Hovey, at Fort Worth, Texas, is manager.

Jonesboro, Ark.—W. H. Stevens, auditor of the Jonesboro, Lake City & Eastern Railroad Co., informs the Manufacturers' Record that this line will be extended east from Lake City about fifteen miles during the present year. Surveys have been completed, and it is expected tracks will be laid by September 15.

Knoxville, Tenn.—The Black Diamond Railroad Co. announces that an engineer in the interest of English investors will make an examination of the route of this proposed line, and that the English parties will assist in its construction if the report is favorable. The road is proposed between the Ohio river and some point on the South Atlantic coast. Albert E. Boone is its principal promoter.

Morgantown, W. Va.—The Central Railway Co. of West Virginia has been formed, with $100,000 capital. Thomas E. Davis, of Grafton, is president; George E. Sturgis, of Morgantown, vice-president; George M. Whitescarver, of Grafton, secretary; Robert

T. Devries, of Wheeling, treasurer. Work on the railroad is to begin at once. It will extend from Morgantown, through Preston, Taylor, Barbour, Upshur and Braxton counties to a point on Elk river, thence to Charleston.

Moscow, Texas.—The Moscow, Camden & San Augustine Railroad Co. has elected W. T. Carter, of Camden, president, and C. H. Jones, of Galveston, vice-president. It is reported that the line is now under construction between Moscow and Camden, and that the company will extend to a connection with the Trinity & Sabine Railway at some point in Tyler county. The total length will be about seventy-five miles.

Orange, Texas.—The Gulf, Texas & Northern Railroad Co. will meet at Orange on July 15 to arrange a bond issue to finance the construction of this line. As already noted in the Manufacturers' Record, it will be 186 miles long, extending between Orange, Marshall and Waskom. C. W. Higgins is secretary of the company.

St. Albans, W. Va.—The Little River Coal, Railroad & Mining Co. has been incorporated at $1,500,000, and will build a line from St. Albans, Kanawha county, to Madison, in Boone county. H. J. Loudy, of Huntington, W. Va., and several New York parties are the incorporators.

Tarboro, N. C.—The Eastern Carolina Railway Co. has been formed to build a road between Tarboro and Crisp, N. C. Among those interested are Edward Pennington, of Tarboro, and V. P. Boyd, of Raleigh, N. C.

Waycross, Ga.—It is reported that the extension of the Waycross Air Line from Nichols to Douglas, Ga., has been completed and that the track will be laid by September 1. The extension is twelve miles long. J. T. Stone, at Waycross, is superintendent of construction.

Street Railways.

Kansas City, Mo.—The Central Electric Railway Co., with a capital stock of $1,000,000, has filed articles of incorporation. Samuel M. Jarvis, of New York; W. C. Scarritt, R. R. Conklin, F. S. Groves, William M. Reid, E. S. Youmans and E. G. Vaughan are shareholders. It is stated that this company will control the company known as the Northeast Electric Railway Co. The plans include several new electric lines in the city.

Petersburg, Va.—The Piedmont Traction Co. has been formed to build an electric street railroad in the city and has asked for the necessary authority.

Machinery, Proposals and Supplies Wanted.

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The MANUFACTURERS' RECORD has received during the week the following particulars as to machinery that is wanted.

Agricultural Implements.—H. W. Sunison, Warsaw, N. C., wants to buy a mower.

Boat.—Armstrong & Bro., Gum Neck, N. C., wish to purchase a small river tugboat to draw about three or four feet of water.

Boiler and Engine.—Red Bluff Mills, Clio, S. C., solicits estimates on engine and boiler, 100 horse-power.

Boiler and Engine.—M. P. Jordan & Co., Danville, Va., want to buy a 25-horse-power locomotive boiler and a 12 or 15-horse-power engine; both to be in good condition; second-hand.

Bridge.—Baltimore county commissioners, Towson, Md., will open proposals July 13 for the construction of an iron bridge near Parkton, on Northern Central Railroad; length of span to be 116 feet; roadway sixteen feet; skew of eleven feet in length of abutments, which are twenty-two feet ten inches; plans con be seen at Towson; bidders will furnish their own plans, specifications and strain sheets. For further particulars address B. H. Mays, superintendent bridges.

Bridges.—Bids are asked until July 5 for constructing eight county bridges; P. Youree, president; A. L. Duringer, clerk, Shreveport, La.

Building Materials.—J. D. Verner, Walhalla, S. C., will want combination bank vault, plate-glass and cast-iron front.

Castings and Tinwork.—See "Heating Apparatus."

Cotton Compresses.—W. E. Whitehead, Carrollton, Ga., wants addresses of makers of cotton compresses.

Cotton Ginnery.—Allen & Hill, Louisburg, N. C., want two 80-saw cotton gins, revolving self-packing press, suction arrangement, etc.

Cotton-mill Machinery.—James M. Harrison, New Berne, N. C., wants addresses of manufacturers of machinery for making spool-machine cotton and wrapping cotton twine.

Electric-light Plant.—The board of aldermen of the town of Opelousas, La., will receive bids until July 15 to lease the waterworks and electric-light plant of the town of Opelousas, State of Louisiana, now in course of completion, for a term of five years from date of signing of lease; the lessors to take charge of plant as delivered by contractors to the town of Opelousas and to supply the town, free of any cost, with light from forty arc lights now erected, and also four incandescent lights, and also to supply the town with water for fire purposes from hydrants now erected, as well as from any hydrants the town may hereinafter place in present mains or extensions that may be made; water and electric-light rates for private parties to be agreed upon between the lessees and lessors, which rates are not to exceed rates being charged by similar plants in adjoining parishes; usual rights reserved. Address all communications to Thomas H. Lewis, Jr., city clerk.

Flour-mill Machinery.—McCord & Co., Lynnville, Tenn., will possibly need a flour packer.

Heating Apparatus.—J. W. Wofford, Hendersonville, N. C., wants an apparatus for heating a large dwelling by hot air or water.

Heating Apparatus.—Eureka Buggy Heater Co., Senoia, Ga., is in the market for bids on castings and tinwork to be used in manufacture of a heating device.

Laundry.—The State Normal and Industrial College, Greensboro, N. C., will erect steam laundry, and will probably want machinery. Address Charles McIver, president.

Lock Work.—U. S. Engineer Office, Louisville, Ky., J. G. Warren, captain engineers, will receive sealed proposals until July 28 for construction of masonry of lock walls and abutment for dam of Lock No. 8, Kentucky river. Information furnished on application.

Match Machinery.—James M. Harrison, New Berne, N. C., wants addresses of manufacturers of match machinery.

Oil-mill Machinery.—River Oil Co., E. V. Zoeller, secretary and treasurer, Tarboro, N. C., wants quotations for set crushing rolls and a (Wells) pattern huller, both of suitable sizes for a 30-ton mill.

Oil Refinery.—Southern Oil & Manufacturing Co., Jamestown, Tenn., will need soon machinery for oil refinery.

Phosphates.—C. Seybold, Jeannette, Pa., wants prices on phosphates in ton and carload lots.

Piping.—W. T. Rittenhouse, city clerk, Parkersburg, W. Va., will receive proposals until July 11 for the construction of about 1000 feet of 36-inch cast-iron conduit from the pump well of the city pump station to the channel of the Ohio river; also an extension of the 14-inch pumping main from edge of water to the channel, a distance of about 700 feet, all material, labor and appliances necessary to be furnished by contractor, except the 14-inch pipe, which will be furnished by the city, and 200 feet of 36-inch pipe, which is to be taken up and relaid. Each proposal must be accompanied by check for $200. Usual rights reserved. Plans and specifications on file in office.

Pump.—The Adelphia Gold Mining Co., Edward McDowell, manager, Morganton, N. C., wants a centrifugal dredge pump.

Roofing, Ceiling, etc.—S. B. Brown & Co., Albany, Ga., want to correspond with manufacturers of stamped ceilings.

Sewerage System.—W. E. Thomas, clerk, Roanoke, Va., will receive sealed proposals until July 16 for the construction of sewers in section 21 of the general sewer system of the city, according to plans and specifications, etc., on file in city engineer's office; J. H. Wingate, city engineer.

Sewers.—Sealed proposals will be received until July 11 for furnishing all material, Y's, etc., for laying and constructing the following-named sewers and all necessary manholes, flushtanks and lampholes, according to plans and specifications on file in office of city engineer: 950 feet eight-inch sewer, Avery street, between 13th and 16th; 1530 feet eight-inch sewer on Spring and 16th streets to St. Mary's avenue; 310 feet eight-inch sewer on Spring street, 16th to 17th street; 1240 feet eight-inch sewer on Charles street to Swann, and on Swann to 13th street; 550 feet eight-inch sewer on Swann street, from Charles to Grafton street; 780 feet eight-inch sewer on Tefft and Lynn streets; 750 feet eight-inch sewer on Lynn street, between Tefft and 14th streets; 2100 feet eight-inch sewer on Latrobe street, from Grafton to 14th street; 250 feet eight-inch sewer on 13th street, from Latrobe street east; 3000 feet trunk sewer—(a) 3000 feet 15-inch tile sewer, or (b) 2400 feet 15-inch tile sewer and 600 feet brick sewer in tunnel. Bids must be made on blanks furnished by city. Certified check for $100 will be required with each bid; usual rights reserved; W. T. Rittenhouse, city clerk.

Water Works.—See "Electric-light Plant."

Woodworking Machinery.—Allen & Hill, Louisburg, N. C., want a shingle mill.

Woodworking Machinery.—Southern Oil & Manufacturing Co., Jamestown, Tenn., will need machinery for manufacturing staves, etc.

Chair Factory for Sale.—An opportunity to secure a fully-equipped chair factory, located in the South, at an extremely low figure, is being offered by Mr. S. S. Rambo, of Tallapoosa, Ga. The entire outfit of machinery is in good working condition, ready for operation. (See advertisement).

TRADE LITERATURE.

Fan Motors. A circular descriptive and illustrative of the Westinghouse alternating current fan motors has been issued by the Westinghouse Electric & Manufacturing Co., of Pittsburg, Pa.

What Is Correspondence Instruction?—This question is fully answered in the new booklet issued by the International Correspondence Schools, of Scranton, Pa. This booklet is of particular interest to those interested in technical education in any branch.

"Phosphor Bronze" Price-list.—Revised price-list No. 13 has been issued by the Phosphor Bronze Smelting Co., Limited, of 2200 Washington avenue, Philadelphia, Pa. This company is the original manufacturer in the United States and sole maker of "Elephant" brand phosphor-bronze and other alloys. All users of the materials referred to should provide themselves with a copy of the new list.

Reduced Rates to Buffalo via Pennsylvania Railroad, Account Baptist Young People's International Convention.

For the International Convention of the Baptist Young People's Union of America, to be held at Buffalo July 14 to 17, 1898, the Pennsylvania Railroad Co. will sell excursion tickets from all ticket stations on its line to Buffalo and return at rate of single fare for the round trip. Tickets will be sold July 12 to 15, and will be good to return until July 19, except that by depositing ticket with joint agent at Buffalo on July 17, 18 or 19, and the payment of fifty cents, the return limit may be extended to leave Buffalo to September 1, 1898.

Special train will leave Harrisburg 12.35 P. M. July 13. Passengers desiring to connect with special train can leave Baltimore 8.40 A. M. †

Niagara Falls—Low-Rate Excursion via Pennsylvania Railroad.

The Pennsylvania Railroad Co. has selected the following dates for its popular 10-day excursions to Niagara Falls from Baltimore: July 21, August 4 and 18, and September 1, 15 and 29. An experienced tourist agent and chaperon will accompany each excursion.

Excursion tickets, good for return passage on any regular train, exclusive of limited express trains, within ten days, will be sold at $10 from Baltimore. A stop-over will be allowed at Buffalo, Rochester and Watkins returning.

A special train of Pullman parlor cars and day coaches will be run with each excursion.

Tickets for a side trip to the Thousand Islands (Alexandria Bay) will be sold from Rochester, good to return to Rochester or to Canandaigua via Syracuse within five days, at rate of $5.50.

For time of connecting trains and further information apply to nearest ticket agent or B. Courlaender, Jr., passenger agent, Baltimore and Calvert streets, Baltimore. †

FINANCIAL NEWS.

The Manufacturers' Record invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

New Corporations.

The Bartlett Bros.' Investment Co., of St. Joseph, Mo., has been chartered, with $30,000 capital, by T. D. and W. H. Bartlett.

The Commercial Savings and Loan Association has been incorporated at Baltimore by George P. Neilson, Charles W. Schwartzkopf, Albert Neuhahn and Lloyd Cronhardt.

Missouri Citizens' Town Mutual Insurance Co., of Sedalia, has been formed with the following incorporators: G. W. Barnett, O. A. Crandall, T. E. Hoffman and others.

The First National Bank of Durant, Miss., has opened for business with the following officers: L. B. Smith, president; Edward Rines, vice-president; H. M. Dunlap, cashier.

A charter has been granted to the Roane Bank, of Spencer, W. Va., for carrying on general banking business. Incorporators are G. P. Stone, H. C. Woodward, I. C. Woodward and others.

The Southwestern Mutual Loan Association of Waco, Texas, has been formed, with capital stock of $20,000. The incorporators are S. S. Chandler, Peter C. Kenyon and Frank Lorenzo Miller.

The People's Loan Association, recently formed at Columbia, S. C., has elected the following officers: James Woodrow, president; T. S. Bryan, vice-president; Julius H. Walker, secretary and treasurer.

New Securities.

The Bank of Laurinburgh, N. C., has determined to increase its capital to $20,000.

Messrs. Townsend Scott & Co., of Baltimore, have secured an issue of $5000 in bonds of Allegany county, Maryland, at 103.61.

The city of Charlotte, N. C., will probably make a loan of $25,000 to meet special expenses. A. Spring, mayor, may be addressed.

The city of El Paso, Texas, has sold its issue of $45,000 in bonds to N. W. Harris & Co., of Chicago, at a premium of $1711 for the entire issue.

Proposals will be received until 12 M., July 30, 1898, by Frank W. Hall, chairman school commissioners of Dahlonega, Ga., for $2500 7 per cent. bonds.

The city of Holly Springs, Miss., will receive bids until August 2 for the proposed issue of $43,000 in 6 per cent. bonds. John Calhoon may be addressed.

Proposals will be received until 2 P. M., July 18, 1898, by J. M. Pearson, mayor of McKinney, Texas, for the proposed issue of $29,000 5 per cent. water-works bonds.

It is announced that the people of Durham, N. C., will vote August 1 on a proposed issue of $225,000 in bonds for public improvements. The mayor may be addressed.

The Kansas, El Dorado & Southern Company has given a mortgage to the Lincoln Trust Co., of St. Louis, to secure a bond issue of $400,000. The bonds will be used in constructing this line.

The Guardian Security, Trust & Deposit Co. of Baltimore has determined to sell $200,000 worth of its treasury stock to obtain additional working capital. Present stockholders will be given the preference in disposing of this amount.

Messrs. Eavey, Lane & Co., of Hagers-

town, Md., have purchased a part of the issue of bonds made by Washington county, Maryland, for refunding purposes. The amount they bought was $137,500, the total premium amounting to $10,760. The balance of the issue has been sold at a premium to private investors.

Dividends and Interest.

With this issue the Manufacturers' Record is enabled to present a partial list of the dividend and interest disbursements for the first half of 1898 made by Southern railway and other corporations. Thus far it would seem that the Spanish-American war has had no effect in decreasing the dividend payments or causing the default of any interest obligations. The banks in the principal Southern financial centers are declaring the usual semi-annual dividends, and in many cases have earned enough to add large amounts to surplus funds. The remarkable prosperity of the banks in the smaller Southern towns may be taken as an indication of the prosperity in agricultural sections of the Southern States. Annual dividend disbursements averaging from 8 to 10 and 12 per cent. are common, while some of the institutions have earned enough to declare semi-annual dividends of 10 per cent. This is illustrated in the case of the Bank of Biloxi, Miss. In addition to paying 10 per cent. out of its earnings for the last six months, it has added as much more to its surplus fund, making its average profits for the year no less than 40 per cent. of its capital. The list of disbursements in detail is appended:

DIVIDENDS.

Augusta, Ga.—National Bank of Augusta, $3.50 semi-annual; Augusta Land Co., $2 per share semi-annual.

Richmond, Va.—Merchants and Mechanics' Building Co., 3½ per cent. semi-annual; Columbian Building and Loan Association, dividend on C. D. stock; Security Loan Association, 3½ per cent. semi-annual; Savings Bank of Richmond, 3 per cent. semi-annual; Metropolitan Bank, 3 per cent. semi-annual; First National Bank, 4 per cent. semi-annual; German-American Banking Co., 3 per cent; Union Bank, 6 per cent. semi-annual; Commercial Loan Association, 3 to 4 per cent. semi-annual; United Banking Co., 3 and 3½ per cent. semi-annual; Old Dominion Loan Association, 3 per cent. semi-annual; Commercial Guarantee Co., 4 per cent. semi-annual; Granite Building Co., 2½ per cent. semi-annual; Virginia State Insurance Co., 3 per cent. semi-annual; Merchants' National Bank, 3½ per cent. semi-annual; City Bank, 3 per cent. semi-annual; Richmond Loan & Trust Co., $1 per share semi-annual; National Bank of Virginia, 3 per cent; Security Bank, 3 per cent; Planters' National Bank, 6 per cent. semi-annual; Virginia Trust Co., 3 per cent. semi-annual.

Savannah, Ga.—Georgia Investment Co., 6 per cent.; Chatham Improvement Co., $1.75 per share; Chatham Bank, 3 per cent. semi-annual; Southern Bank of Savannah, 3½ per cent.; Savannah Trust Co., $3 per share.

Atlanta, Ga.—Lowry Banking Co., 4 per cent. semi-annual.

Galveston, Texas.—Citizens' Loan Co., 3 per cent.

Greensboro, N. C.—Piedmont Bank, 3 per cent. semi-annual and 2 per cent. added to profits.

Charleston, S. C.—Equitable Insurance Co., 3 per cent. semi-annual; Merchants and Miners' Bank, $3 per share semi-annual; Charleston Gas Co., 62½ cents per share; People's National Bank, $5 per share; Hibernia Savings Bank, $5 per share.

Montgomery, Ala.—Bank of Montgomery, 3 per cent. semi-annual; Farley National Bank, 3 per cent. semi-annual; First National Bank, 3 per cent. semi-annual; Planters' National Bank, 4 per cent. semi-annual.

Charlotte, N. C.—Cabarrus Savings Bank, 5 per cent. semi-annual; Merchants and Farmers' National Bank, 3 per cent.; Charlotte National Bank, 3 per cent.; Commercial National Bank, 5 per cent. semi-annual.

Portsmouth, Va.—People's Bank, 3 per cent. semi-annual.

Staunton, Va.—The National Valley Bank, 5 per cent.; Augusta National Bank, over 2 per cent.; Farmers and Merchants' Bank, 2 per cent.; the Augusta Building and Loan Association, 2½ per cent.

New Orleans, La.—State National Bank, $3 per share semi-annual; Hibernia National Bank, $5 per share semi-annual; Canal & Claiborne Railroad Co., 4 per cent. semi-annual; Teutonia Insurance Co., 5 per cent. semi-annual; Louisiana National Bank, $4 per share semi-annual; Algiers Water Works Co., $1 per share semi-annual; New Orleans National Bank, $15 per share semi-annual; New Orleans Gas Co., $2.50 per share semi-annual; Canal Bank, $3 per share; Germania National Bank, $3 per share semi-annual.

Baltimore, Md.—National Planters and Farmers' Bank, 3 per cent. semi-annual; National Mechanics' Bank, 4 per cent. semi-annual; National Union Bank, 2 per cent. semi-annual; Commercial and Farmers' National Bank, 3 per cent. semi-annual; American Fire Insurance Co., 4 per cent. semi-annual; Manufacturers' National Bank, 2 per cent. semi-annual; Maryland Fire Insurance Co., 3 per cent. semi-annual; German-American Bank, 2½ per cent. semi-annual; Traders' Bank, 2 per cent. semi-annual; Howard Fire Insurance Co., 3 per cent. semi-annual; National Exchange Bank, 3 per cent. semi-annual; Firemen's Insurance Co., 4 per cent. semi-annual; American National Bank, 2½ per cent. semi-annual; Canton National Bank, 2 per cent. semi-annual; Western National Bank, 4 per cent. semi-annual; National Fire Insurance Co., 3 per cent., semi-annual; Drovers and Mechanics' National Bank, 3 per cent. semi-annual; National Howard Bank, 2½ per cent. semi-annual; Citizens' National Bank, 4 per cent. semi-annual; George's Creek Coal & Iron Co., $3 per share semi-annual; Peabody Fire Insurance Co., 5 per cent. semi-annual; Alabama Loan Association, 3 per cent. semi-annual; Security Trust Co., 2½ per cent. semi-annual; People's Bank, 2 per cent. semi-annual; Associated Firemen's Insurance Co., 4 per cent. semi-annual; National Bank of Baltimore, 4 per cent. semi-annual; Merchants' National Bank, 3 per cent. semi-annual; German Bank, 2½ per cent. semi-annual; American National Bank, 2½ per cent.

Louisville, Ky.—National Loan Association, 3 per cent. semi-annual; Union National Bank, 3 per cent. semi-annual; Louisville Trust Co., 1½ per cent. quarterly; Columbia Trust Co., 1½ per cent. quarterly; National Loan Association, 3 per cent. semi-annual.

Biloxi, Miss.—Bank of Biloxi, 10 per cent. semi-annual and 10 per cent. added to surplus.

Norfolk, Va.—Merchants and Farmers' Bank, 5 per cent. semi-annual.

Durham, N. C.—Fidelity Bank, 4 per cent. semi-annual.

Fredericksburg, Va.—Bank of Clark County, 3 per cent. semi-annual.

Williamsburg, Va.—Peninsular Bank, 4 per cent. for three months.

Clinton, La.—Bank of Clinton, 4 per cent. semi-annual.

Greenville, S. C.—Greenville Fertilizer Co., 8 per cent.

Eufaula, Ala.—Eufaula Cotton Mill Co., 4 per cent. semi-annual.

Lynchburg, Va.—Lynchburg Cotton Mill Co., 4 per cent. semi-annual; People's National Bank, 4 per cent. semi-annual; National Exchange Bank, 3 per cent.

Wilmington, N. C.—Atlantic National Bank, 3 per cent. semi-annual and $10,000 added to surplus.

RAILROAD DIVIDENDS.

Richmond, Fredericksburg & Potomac Railroad Co., $3.50 per share; Petersburg Railroad Co., $3.50 per share; Norfolk & Southern Railroad Co., 1 per cent. quarterly; Denver & Rio Grande, 1½ per cent. semi-annual; Northern Central Railway Co., 3 per cent. semi-annual; Annapolis, Washington & Baltimore, 1½ per cent. semi-annual; Atlanta & West Point, 3 per cent. semi-annual; Augusta & Savannah, 2½ per cent. semi-annual; Illinois Central, 2 per cent. semi-annual; Northeastern Railroad of South Carolina, 3 per cent. semi-annual; Georgia Southwestern, 2½ per cent. semi-annual; Southern Railway, 1 per cent. (on preferred stock); St. Louis & San Francisco, 2 per cent. on preferred and 1 per cent. on second preferred; Wilmington, Columbia & Augusta, 3 per cent. semi-annual; Maryland Coal Co., 2 per cent.; Texas & Pacific Coal Co., 2 per cent.; Consolidated Railroad Co. of Baltimore, 2 per cent.; Richmond & Petersburg Railroad Co., $3.50 per share.

LOCAL INTEREST PAYMENTS.

At Baltimore.—By Mercantile Trust & Deposit Co.: Georgia, Carolina & Northern 1st 5s; Baltimore & Ohio Equipment Co.'s 6s; Georgia Southern & Florida Railway 1st 5s; Seaboard & Roanoke Railroad 1st 5s; Raleigh & Augusta Railroad 1st 6s; Raleigh & Gaston 1st 5s; Norfolk Street Railroad 1st 5s; Charleston City Railroad Co., of South Carolina, 1st 5s; Baltimore & Ohio Car Trust Extended 5s; Aberdeen & West End Railroad 1st 6s; Town of Wytheville (Va.) Electric Plant 6s; Columbus (Ga.) Water Works Co. 1st 6s; Monticello Distilling Co. 1st 6s; College of Physicians and Surgeons 6s; Salisbury Water Co. 5s; National Brewing Co. 1st 6s; City of Raleigh 5s; City of Radford 6s; Shreveport Gas, Light & Power Co. 1st 7s; George W. Collier mortgage 6s; City of Asheville 5s; City of Asheville 6s; City of Charlottesville 5s; City of Petersburg 5s; Belt Railway Co. of Chattanooga 1st 3s; City of Staunton 5s; Evening News Building Co. (Baltimore) 1st 5s. By Alexander Brown & Sons: Baltimore Traction Co. collateral 5s. By Hambleton & Co.: West Virginia Central & Pittsburg Railway 6s. By Old Town Bank: Baltimore & Cumberland Valley Railroad extension coupons; Baltimore & Cumberland Valley Railroad coupons; Baltimore & Hanover Railroad coupons; Potomac Valley Railroad coupons. By Townsend, Scott & Co.: Coupons on city of Staunton 4½ per cent. bonds. By American National Bank: City Hall 6 per cent. loans; Consolidated 3½ per cent. loan; Western Maryland Railroad 3½ per cent. loan; Patterson Park 4 per cent. loan. By National Bank of Baltimore: Public improvement 3½ per cent. 1940 loan; Western Maryland Railroad 4 per cent. loan; Western Maryland 6 per cent. loans. By Farmers and Merchants' National Bank: Internal improvement 3½ per cent. loan; Harford run 4 per cent. loans. By National Exchange Bank: Funding 3½ per cent loan. By Safe Deposit & Trust Co.: Coupons Brush Electric Light Co. By First National Bank of Baltimore: Coupons due July 1, 1898, of bonds of the Consolidated Gas Co. of Baltimore.

At Charleston, S. C.—By South Carolina Loan & Trust Co.: Coupons of 4½ per cent. bonds of the State of South Carolina.

RAILWAY INTEREST.

Aberdeen & West End 5s, $1250; Alabama Great Southern 1s 6s, $52,500; Asheville & Spartanburg 4s, $20,000; Atlanta & Charlotte 7s, $148,750; Atlantic & North Carolina 6s, $10,500; Atlantic & Danville 5s, $37,500; Austin & Northwestern, $48,000; Baltimore & Annapolis 4s, $12,000; Baltimore & Potomac 6s, $45,000; 5s, $75,000; Carolina Central 6s, $60,000; Carolina & Cumberland Gap 5s, $1500; Central of Georgia 5s, $46,000; Ocean S. S. Division 6s, $30,000; South Carolina Central 6s, $9000; Charleston & Savannah, $52,500; Chesapeake & Ohio 6s, $68,700; 4s, $20,000; 5s, $16,000; 2s, $120,000; Columbia, Newberry & L. 6s, $21,000; Florence Railroad 5s, $9000; Florida Central and Peninsular 5s, $195,000; Gal. Har. & San. 6s, $191,000; Georgia & Alabama 5s, $60,000; Georgia Carolina & Northern 5s, $134,000; Georgia Railroad & Banking Co. 6s, $69,000; 5s, $5000; Georgia Southern & Florida 5s, $90,000; Hot Springs Railroad 5s, $11,000; Houston & Texas Central 5s, $177,000; Illinois Central 4s, $126,000; 3½s, $267,000; Knoxville & Ohio, $60,000; Lexington & Eastern 5s, $25,000; Louisville, Henderson & St. Louis 5s, $53,000; Louisville & Nashville 6s, $180,000; 7s, $114,000; 4s, $433,000; Memphis & Charleston 7s, $85,000; Missouri Pacific 5s, $162,000; 7s, $82,000; Mobile & Ohio 6s, $15,000; 5s, $25,000; Southern Pacific Branch 6s, $45,000; 5s, $25,000; Nashville, Chattanooga & St. Louis 7s, $221,000; 8s, $7000; 6s, $75,000; Nashville & Decatur 7s, $74,000; New Orleans & Northeastern 6s, $150,000; New York, Philadelphia & Norfolk 6s, $55,000; Norfolk & Western 5s, $45,000; Northern Central 6s, $22,500; Ohio River Railroad 6s, $9000; Petersburg 8s, $4000; 5s, $17,000; Raleigh & Augusta 6s, $30,000; Raleigh & Gaston 8s, $40,000; York River & Ches. 8s, $16,000; Richmond, Fredericksburg & Potomac 5s, $6000; Rio Grande Western 4s, $304,000; St. Louis & San Francisco 6s, $234,000; 5s, $307,000; Savannah, Florida & Western 4s, $60,000; 7s, $62,000; Seaboard & Roanoke 5s, $62,500; Silver Springs & Gulf 6s, $45,000; South Florida 6s, $76,000; Southern Railway 5s, $201,000; 6s, $255,000; 7s, $176,000; 4s, $125,000; Texas & New Orleans 5s, $41,000; 6s, $30,000; Cons. Mort. 5s, $47,500; Vicksburg, Shreveport & Pacific 6s, $120,000; Wilmington & Weldon 7s, $33,000; 5s, $75,000; Consolidation Coal Co. 6s, $33,000; Tennessee Coal, Iron & Railroad Co. 6s, $105,000; Louisiana Western 6s, $67,000.

Financial Notes.

S. Y. Jenness has been elected president of the City Bank of St. Petersburg, Fla.

It is announced that arrangements are being made to consolidate the First National Bank and the Farmers and Merchants' National Bank of Huntsville, Ala.

At the annual meeting of the stockholders of the Bank of Cheraw, S. C., the following officers were elected: President, R. T. Caston; vice-president, H. W. Finlayson; cashier, F. A. Waddill; teller, J. C. Whitley.

A New Orleans dispatch states that the National Fire Insurance Co. of Hartford, Conn., has obtained a controlling interest in the Mechanics & Traders' Insurance Co., of New Orleans. It is understood that the business of the Northern company will be extended considerably in the South.

According to the quarterly report of the national banks of North Carolina, there are now twenty-seven in operation. The report shows loans and discounts, $6,744,848; aggregate resources, $11,088,000; capital stock paid in, $2,671,000; surplus, $87,000; undivided profits, $325,000; national bank notes outstanding, $594,000; individual deposits subject to check, $5,712,000.

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Each tour will be in charge of one of the company's tourist agents, assisted by an experienced lady as chaperon, whose especial charge will be unescorted ladies.

The rate of $100 from Baltimore covers railway and boat fare for the entire round trip, parlor-car seats, meals en route, hotel entertainment, transfer charges, carriage hire—in fact, every item of necessary expense.

For detailed itinerary, tickets or any additional information address B. Courlaender, Jr., passenger agent, Baltimore and Calvert streets, Baltimore. †

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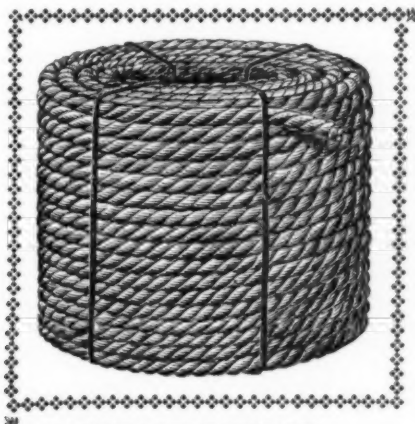

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67 Wall Street, New York.

Mills:

West, Milton, Noble and Oak Streets, Greenpoint, Brooklyn.

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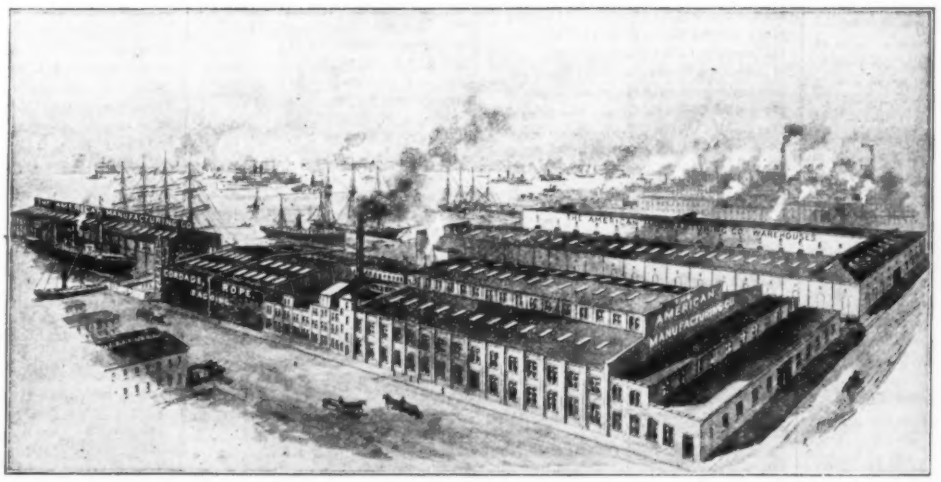

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Ours is the Best Made.

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Ads. marked thus ‡ appear in second issue of each month.

Ads. marked thus ‖ not in this issue.

PROPOSALS.

TREASURY DEPARTMENT, Office Supervising Architect, Washington, D. C., June 13, 1898.—Sealed proposals will be received at this office until 2 o'clock P. M. on the 9th day of July, 1898, and then opened, for the construction, (except heating apparatus) of the U. S. Post Office building at Pottsville, Pa., in accordance with the drawings and specification, copies of which may be had at this office or the office of the Postmaster at Pottsville, Pa. JAMES KNOX TAYLOR, Supervising Architect.

PLANS AND BIDS FOR BUILDING FIRE PROOF CLERK'S OFFICES FOR PITTSYLVANIA COUNTY WANTED.—We, the undersigned committee, will, until Saturday noon preceeding the 4th Monday in July, 1898, at Chatham, Pittsylvania County, Va., receive bids, accompanied by plans and specifications, for building a fire proof Clerk's Office for the County and Circuit Courts, also separate bids and specifications for converting the basement room of the Court House into two fire proof Clerk's Offices, complete in every respect and ready for use, including all necessary and proper metal furniture, and in said work the metallic furniture now on hand in the County Court Clerk's Office shall be renovated as may be necessary and proper and removed and set up ready for use in the said new offices. The right to reject any or all bids is reserved by the Board of Supervisors.

W. B. SHEPHERD, Clerk.
G. H. VADEN, Treasurer.
W. I. OVERBEY, Sheriff.
Chatham, Pittsylvania County, Va.

NOTICE TO CONTRACTORS.

Sealed bids are invited by the Board of the Improvement District of the City of Batesville, Ark., for the Construction of a Water-Works System and Electric-Lighting Plant, in accordance with the official Plans and Specifications of the said Board.

Bids will be received until 12 o'clock noon of **JULY 14th, 1898,** at the office of the Board in Batesville, Ark.

Plans and Specifications are on file and may be seen at the office of the Mayor of Batesville, Ark., and at the office of Owen Ford, Consulting and Supervising Engineer, 710 Security Building, St. Louis, Mo., and at the office of the Private Secretary of the Governor of Arkansas, at Little Rock, Ark.

Payment of 90 per cent. of the estimated cost of the improvement will be made in bonds of the District, bearing 6 per cent. interest, remainder in cash.

The Board reserves the right to reject any and all bids.

ROBERT NEILL, President.
C. R. HANDFORD.
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Garden produce of farms near Charleston is shipped to Northern and Eastern markets at good profits.

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Advertisements under this head will be inserted hereafter at the rate of one cent a word for each insertion.

WANTED.—Traveling salesmen on salary or commission to sell our steel pens to offices, banks and stationers. Agents need apply. Address SPOT CASH PEN CO., Boston, Mass.

WANTED.—Capable, reliable, enterprising business man to take entire control of novel device for advertising. Small capital required to push device, not to buy it. Address ADVERTISER, care Manufacturers' Record.

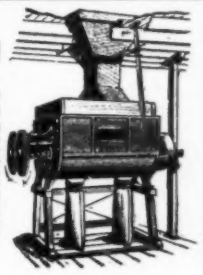
SITUATIONS WANTED.

Advertisements under this head will be inserted hereafter at the rate of one cent a word for each insertion.

WANTED—Mechanical engineer and machinist with long experience with cotton mills would like to take agency for general machinery and cotton mill supplies; best references. Address B. T. C., Box K, Greensboro, N. C.

WANTED.—Am open to engagement after August 1st. Desire position in sales department iron and steel concern, or machinery house, or in charge of Southern office, where hard work and executive ability would be required. Have had vast and varied experience as salesman, and am well posted on freight matters. Age 30. Excellent references. Address IRON, care Manufacturers' Record, Baltimore, Md.

The BROUGHTON
DRY MIXER
FOR
Hard Plaster, Cement, Paint, &c.
W. D. DUNNING.
90 W. Water St., SYRACUSE, N. Y.



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It is well mechanically made.

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Will you supply them?

For descriptive circulars and price, address

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Ford Wind Engines for Power.

"Aeolus" Mill for Pumping.

Steel Towers, Pumps, Tank, Etc.

AEROSTATIC POWER CO.

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Send for Catalogue.

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PRESS
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Or for any other purpose requiring great pressure.
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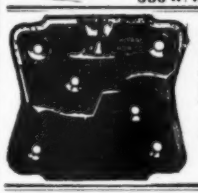

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Specialties in Iron.
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Incomparably the Leading System in the South.

IT RUNS THROUGH Virginia, North Carolina, South Carolina, Georgia, Alabama, Mississippi, Tennessee and Kentucky.

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The Advantages of Raw Material, Labor, Cheap Sites, Cheap Building, Good Markets and Low Taxation (in some cases no taxation for a series of years) make regions along the **SOUTHERN RAILWAY** the best in the United States for Profitable Industries.

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Apply to or address JOHNSTON & NELSON, 241 E. German Street, BALTIMORE, MD.

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PAINT MACHINERY Mills, Mixers, Can Fillers, &c. Low prices, large assortment. Write for particulars. LYONS MACHINERY CO., Station B., No. 01, Cincinnati, O.

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Hardware, Stoves, Tinware, Crockery, Housefurnishing Goods, Agricultural Implements, Wagons and Buggies.

An established business for 25 years, in a fine section of agricultural county and in city of 4000 population, situated in Central Texas. Stock clean and well selected; will invoice about $25,000 to $30 000 Only one other hardware house in the city. Stock can be reduced to $20 000 by September 1st. Have building especially built for the business Will sell or lease. Reason for selling on account of health and to close up business.

None but those who mean business need answer this. For further information address

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Main building 300x40 feet; 2 and 3-story frame Dry Kiln 12x100 Lot fronts 700 ft. on railroad with side track; is 300 feet deep. 60 horse-power Engine; 2 boilers, 40 horse-power each; 3 Heaters, Pump, Pony Saw Mill, Blower, Beltz Carver and Moulder, Rod Machine, Shafting, Pulleys, and numerous other machines with forms, tools, &c., necessary to a complete plant. Will send complete list of machinery, &c., on application, and sell separate if desired. Title perfect and clear. Price entire plant $1500.

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Complete Electric Plant

FOR SALE

at Morganton, N. C.

As commissioners, appointed by a decree of the Superior Court of Burke county, the undersigned will, on

MONDAY, AUGUST 1, 1898.

sell at public auction at Morganton, North Carolina, the complete electric plant, power-house, franchises and contracts of the Morganton Electric Light and Power Company. The Company has city contracts and does a large amount of commercial and residence lighting. System is the Edison three-wire, low voltage system, the dynamos are new and the whole plant is in good repair. Plant was erected at a cost of between $15,000 and $18,000. Town of Morganton has about 3000 inhabitants, is located in the mountains of North Carolina on Southern Railway, and is a noted health resort.

TERMS OF SALE: Half cash on day of sale; balance in six months, deferred payment to bear 6 per cent interest, and title to be retained until balance of purchase money is paid.

Advantageous private bids will be considered until sale day.

For further particulars, address

F. H. BUSBEE,
Raleigh, N. C.
W. C. ERVIN,
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Can Supply following:

Asbestos Lands.	Antimony.
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Chrome Iron.	Corundum Lands.
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White Pine Lands.	White Oak Lands.
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E. WILLIS,
CHARLESTON, S. C.

Sale of Valuable Land

AT

BIG STONE GAP, VA.

JULY 25th, 1898.

In the Circuit Court of the United States for the Western District of Virginia, at Abingdon.

R. C. Ballard Thruston, Trustee, vs. The Big Stone Gap Improvement Company. } In Chancery.

Pursuant to a decree of the Circuit Court of the United States for the Western District of Virginia entered in the above cause on the 11th day of April, 1898, as modified by decree entered in said cause by said Court, on the 13th day of June, 1898, I will, as Special Commissioner, offer for sale at public outcry to the highest bidder for cash twenty-three (23) tracts or parcels of land lying in and adjacent to the town of Big Stone Gap, in Wise county, Va.

1. A tract containing 479 acres, known as the South Appalachian Land Company tract.
2. A tract containing 134.57 acres more or less.
3. Another tract containing 67.43 acres.
4. Another tract or parcel of land adjoining the two above named tracts, containing 175.20 acres.
5. Another tract of land containing 105 55 acres.
6. Another tract or parcel of land containing 101.18 acres.

All of the five aforesaid tracts being known as the Virginia, Tennessee and Carolina Steel and Iron Company tracts.

7. Another tract of land containing 139.33 acres, known as the Josiah Ryland tract.
8. Another tract containing 191.05 acres more or less, known as the H. C. & M. B. Wood, and Whitridge and Fox tract.
9. An undivided two-ninths interest in a tract of land containing 197.87 acres more or less, known as the Whitridge and Jones tract.
10. An undivided half interest in a tract of land containing 22.61 acres, known as the Gilly Mill tract.
11. A tract containing 91.9 acres, known as the Gilly Ridge tract.
12. Another tract containing 10 47 acres.
13. Another tract containing 34.1 acres.
14. Another tract containing 62.18 acres.
15. Another tract containing 23.82 acres.
16. Another tract containing 75.57 acres.
17. Another tract containing 20.97 acres.

The last aforesaid nine tracts being lands conveyed to the Big Stone Gap Improvement Company by W. D. Jones and others.

18. An undivided half interest in a tract of land containing 51.55 acres.
19. An undivided half interest in a tract containing 34.8 acres, subject to certain exceptions specified in the deed.

The last two tracts being land conveyed to the said Company by R. C. Ballard Thruston.

20. Another tract or parcel of land containing 74.53 acres, subject to the exception of certain lots specified in the deed, known as the M. B. Wood tract.
21. An undivided ½ interest in another tract of land containing 52.3 acres, known as the Virginia Coal and Iron Company tract.
22. Another tract or parcel of land containing 34.25 acres with one acre excepted.
23. Another tract or parcel of land containing 76.4 acres with one acre excepted.

A large portion of the said tracts and parcels of land have been laid out and platted into parks, lots, streets, roads and alleys, and plats thereof recorded in the office of the Clerk of the County Court of Wise County; and such parks, roads, streets, and lots, together with several hundred town lots which have been sold by said Improvement Company will be excepted in selling said tracts of land. A list of the lots which have been sold with the numbers of the lots, blocks and plats is included in the decree of sale in this cause. The said lands and lots are fully described in the maps and plats filed in the cause and the decree of sale to which reference is here made. A copy of said decree and maps and plats may also be seen at the office of the Special Commissioner in Big Stone Gap.

The said sale will be made on the premises in Big Stone Gap, Wise County, Virginia; on 25th day of July, 1898, and the said land will be sold as a whole, and not in separate lots and parcels.

No bid will be accepted from any person of *less than Thirty-five thousand ($35,000) dollars* for the whole land, nor will any bid be accepted from any person who shall not first deposit with the Special Commissioner the sum of *Ten thousand ($10,000) dollars* in money, or a check payable to the Clerk of the Circuit Court of the United States for the Western District of Virginia, at Abingdon, for that amount, upon a United States National Bank, duly certified by such Bank to be good. The sale will be for cash which shall be paid as and when the Court shall order, but the purchaser may make part payment of the purchase money in coupons and bonds adjudged to be liens to the extent or in the proportion which they shall under the terms of the decree be entitled to share in the purchase money. Any certified check deposited with the Commissioner by any bidder whose bid is not accepted will be returned to him by said Commissioner; and, if any bidder whose bid is accepted shall fail to comply with his bid, the amount of the certified check deposited by him will be forfeited as liquidated damages, and the amount thereof applied to the payment of expenses, costs, and prior claims under the decree of sale.

R. A. AYERS,
Special Commissioner.

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All the machinery of a small

New England Cotton Mill.

4400 Spindles. Will be sold **at a Bargain for Cash.** For particulars apply to

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FOR SALE.

2 ¾" Iron Stacks, 34" diameter, 50' high, bulge tops, cast iron base; Stack, 60'x48", 3-16" iron.
8 Cast Iron Tanks, 8' long, 4' wide, 2' high.
Steam Pump, 7" bore x 7" stroke.
Wilbraham Bros. Slide Valve Engine, 16x31".
1 each Slide Valve Engine, 28x42" and 20x40".
Vertical Engine, 8x10".
Westinghouse Engine and Dynamo.
Boiler, length 16', diameter 52", 28 4" tubes.
4 Double Deck Wetherill Boilers, 16'x48", 40 3¾" tubes. 2 Locomotive Boilers, 80 H. P.
Planer, 37"x37"x15'. 2 Pipe Testing Machines.
1 30-ton Iron Steam Crane. 6 Jib Cranes.
3 Traveling Cranes. 3 Harrington Hoists.
Pair Hydraulic Hoists. 7 Iron Vises.
Grindstone and Basin. Emery Wheel and Stand.
Two New Dudgeon Flue Expanders.
17 Adjustable Hangers, 1¾" shafting.
Fairbanks Wagon Scale—1 10,000 lbs.; 14,000 lbs.
10 length new 6" Water Pipe.
10,000 lbs. new Bolts. 6,000 lbs new Rivets.
3,000 lbs. new Nuts. 1,800 lbs Blacksmith Tongs.
2,000 lbs. Finished Steel Tools, Cold Chisels, etc.
15 new Wheelbarrows. 180' 2½" Canvas Hose.
4 Governors. 6 Ladles.
30 tons 1" Wrought Floor Plates.
1 20" Plate Train. 1 18" Puddle Train.
Heavy Nail Plate Shear with 17" knives.
Heavy Guillotine Nail Plate Shear, 17" knives.
Light Nail Plate Shear—1 each 5½" knives and 4½" knives.
Squeezer, drum 4' 10" diameter x 22" high, under geared, Pittsburgh pattern.
27 new Grindstones, diameter 6'x12" face.
Fairbanks Railroad Track Scales—1 capacity 90,000 lbs. and 1 60,000 lbs.
6 5 bbl. Oil Tanks, length 6', dia. 34", ¼" iron.
4 Nail Rumblers. 20 50-lb. Test Weights.
Set Whitworth Standard Gauges.
Lot of Whitworth Standard Stocks and Dies.

C. R. BAIRD & COMPANY,
Pig Iron,
PHILADELPHIA.

FOR SALE CHEAP.

Electric Motors in Stock.

110 Volt—⅛, ¼, ½, 1, 2, 3, 4, 5, 7½, 10, 15, 20, 25, 30, 35, 60, 75 horse-power.
220 Volt—¼, ½, ½, 1, 1½, 2, 3, 4, 5, 7½, 10, 15, 20, 25, 50 horse-power.
500 Volt—1, 2, 3, 4, 5, 7½, 10, 15, 20, 30, 35, 50 75 horse power.

All are of standard makes, principally Edison, Thomson-Houston, Westinghouse, Crocker-Wheeler, C. & C. and Eddy.

Send for our monthly **Bargain Sheet**, giving complete list, with prices; also on Dynamos, Arc Lamps, Instruments and Supplies.

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Lathes from 12" to 48", Planers from 20" up to 60", 48", 54" and 60" Radial Drills, No. 2 Newton Milling Machine, No 2 Screw Machine, Shapers from 6" to 30", Boilermakers' Punches, Shears, Edge Planers, Rolls, Drills, Engines, Boilers, Pumps and Dynamos.

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ENGINES for Blast Furnaces, Foundries, Converters and Rolling Mills. MILL TRAINS (3-high), 36 in., 30 in., 20 in., 18 in., 12 in. and 6 in. SHEARS for Blooms, Billets, Plates, Sheets, Old Rails and Scrap. CRANES—Yale and Towne Pillar Crane (10-ton).; Jib Cranes, Iron and Wooden. STEAM HAMMERS, various sizes and makes. SQUEEZERS (Rotary). FLY WHEELS and BAND WHEELS, various sizes. Punches, Straighteners, Roll Lathe, Riveter, Machine Shop Tools, etc., etc. LOCOMOTIVES, various gauges, sizes and styles.

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Sales Agt. BALDWIN LOCOMOTIVE WORKS, Philadelphia, Pa.

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Steam Road Roller and Stone Crushing Plant, Steam Drill, Engine, Picks, Shovels,

Everything complete; nearly new. Will be sold together or separately, as desired. Terms reasonable.

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1 40 H. P. Nagle Engine; 1 65 H. P. Engine; 2 No. 5 Knowles Pumps; 1 10" x 12" Porter Engine; 1 25 H. P. Erie City Iron Works Economic Boiler; 1 50 H. P. Return Tubular Boiler; 3 65 H. P. Return Tubular Boilers; 1 8 H. P. Upright Boiler, all thoroughly overhauled, also 1 Marine Boiler, new, to suit 17" Square Engine, and 300 ft. of 6" Cast Iron Pipe with flanges on ends and a Lot of Saw Mill machinery. Write for prices to

JOHN F. RILEY'S MACHINE WORKS,
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Boiler Plate Punch. Boiler Plate Shear.

Built by NASMYTH.

18 inch gap, with spacing table and 40 feet of track; lot spacing patterns, &c. Shear has 13 inch knives.

Also a lot of unfinished boilers.

All cheap for cash.

THOS. P. CONARD,
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Pair 500 H. P. second-hand Engines, Condensing. In extra good condition. Will sell at a great bargain. S. L. HOLT & CO., 67 Sudbury St., Boston, Mass.

BARGAINS! COMPLETE MINING OUTFIT.

1-Norwalk Air Compressor, 20" Cylinder.
1-Clayton Air Compressor, 14" Cyls. Duplex.
3-Lidgerwood Hoisting Engines, 7"x10" and 8"x12".
2-100 H. P. Horz. Boilers, all complete.
2-40 H. P. Horz. Tubular Boilers, all complete.
1-85 H. P. 18"x28" Watertown Horz. Engine.

All the above, together with lot of Drills, Receivers, Duplex Pumps, Feed Pumps, Engines, Boilers, Machine and Blacksmith Shop Equipment, will be sold low. For full particulars and prices,

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One Morgan Traveling Crane,

Ten tons capacity, span 45 feet 6 inches. In first-class condition.

THE WESTINGHOUSE MACHINE CO
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Steam Engines and Boilers

in great variety. Send for quotations and state just what is wanted.

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ARCTIC MACHINES FOR SALE.

We have at our works two second hand Arctic Machines of 50 tons refrigerating or 25 tons ice making capacity We have put these machines in first-class repair and they are in good running order. Will sell them at a bargain. If interested write for full particulars and prices.

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ADAPTED TO A VARIETY OF USES.

All of the Lake Street Elevated R. R. Engines

have had less than three and some of them less than one year's wear.

Weight, 28 to 30 tons. Twenty tons on Drivers.
Diameter of Drivers 44 inches.
Four-Wheel Steel Tired Truck under tank.
Two-Wheel Pony Front Truck added, if desired.

Tank Capacity, 750 Gallons. May be Increased to 1000 or 1750 Gallons. Vacuum Brakes.

A large line of 8 and 10-wheel road engines; also 4 and 6-wheel connected switchers; also narrow gauge equipment.

For prices and full description write

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Dealers in Relaying Rail, Locomotives, etc.,
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Mention this paper.

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20 logging cars, 3 foot gauge; 1 14 ton Shay locomotive, 3 foot gauge; 75 tons 25-lb. iron rails at Burtville, La. 2 8 ton, 7x12, 3 foot gauge Porter saddle tank locomotives; 1 22 ton standard gauge, 12x18, Porter saddle tank locomotives; 3 14 ton Standard gauge, 9x14, Porter saddle tank locomotive; 4 miles 40-lb. steel rail; 8 miles 30-lb. steel rail, all at Birmingham, Ala. 150 tons 30-lb iron rails in Tennessee.

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One Baldwin Locomotive.

Standard gauge Dinkey. Good as new for second-class price. Apply to

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HIGH-GRADE LOCOMOTIVES.

New York Elevated Railroad and Brooklyn Bridge Locomotives.

These Locomotives are Standard Guage, until recently in service on the above-mentioned railroads, being suitable for use on Logging and Suburban roads, and for switching purposes.

They have been discontinued from service because of the introduction of electricity and the replacement by heavier locomotives; therefore, not offered for sale on account of their inefficiency.

They are all in thoroughly good condition, and expert examination is invited. For prices and illustrated descriptions address

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RELAYING STEEL RAILS.

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It will help you to sell Farm and Garden Implements and Machinery, Breeding Stock (Cattle, Horses, Sheep, Swine, Poultry), Stock Remedies, Farm and Stock Appliances and Specialties of every sort, Dairy Supplies, Seeds and Nursery Stock, Fertilizers, Household Articles and everything needed by the farmer or his family.

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SPLIT SWITCHES

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From the New England R. R.
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Can be delivered most favorably in the South. Address

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We are always in the market to buy or sell old material.

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Second-hand equipment and light new Steel Rails.
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8 3-ft. gauge Locomotives.
1 Standard gauge Locomotive.
2 1½-yard Steam Shovels.
6 3-ft gauge 3 yard Dump Cars.
25 new 3-ft. gauge 2½-yard Cars, for shovel or hand work.
5 side and centre Unloading Plows.
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10 Hoisting Engines.
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Large stock of Engines, Boilers and Steam Pumps.

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Several Shay Patent

Logging Locomotives.

Also other logging locomotives and cars.

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Lot of drop bottom, diamond truck Gondola Cars. Ore capacity, about 44,000 lbs.

Relaying Rails

50, 56, 58, 60, 67 and 70 pounds to yard

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STEEL RAILS

FOR SALE.

NEW STEEL RAILS, all weights.

CASH OR INSTALMENT PLAN.

RELAYING and SCRAP RAILS Bought and Sold.

Several Standard Gauge Dummy Locomotives, Suitable for Logging and Suburban Railways.

THE STEEL RAIL SUPPLY CO.,
Successors to HUMPHREYS & SAYCE,
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YOU CAN SAVE MONEY

by buying your Dynamos, Lamps, Generators, Motors, etc., from us.

We carry a stock of Second-hand Electrical Machinery, repaired and in first-class order. All apparatus guaranteed to be in excellent operative condition.

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FOUR six-wheel Baldwin Switchers with eight-wheel, slope-back tenders, equipped with Westinghouse Airbrakes to drivers, tender wheels, and with train connections, now being overhauled at Baldwin Locomotive Works, ready in a few days. A rare opportunity to obtain a bargain.

We have also obtained an additional lot of the 50 ton 18x24 inch cylinder ten-wheelers, recently advertised; have two just out of shop, in perfect order. The last lot went off like hot cakes

A large lot of Passenger Cars, Miller Couplers, Westinghouse Airbrakes. Cars are of various sizes. If you wish to buy write us.

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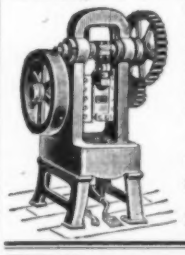

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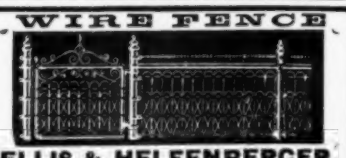

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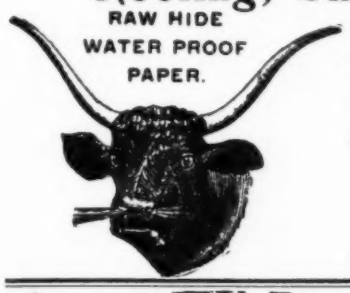

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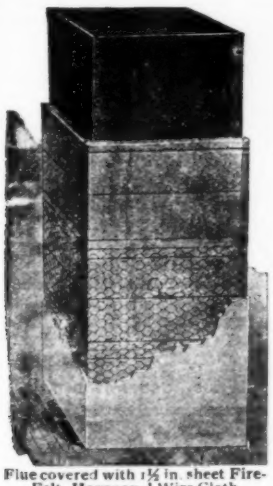

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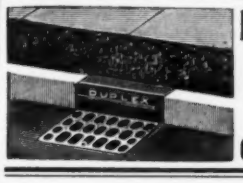

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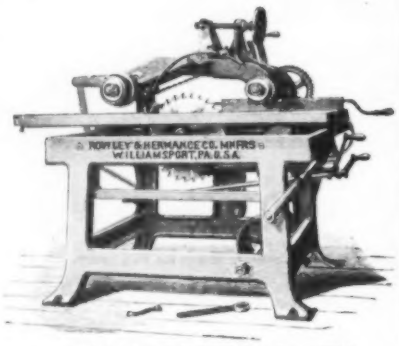

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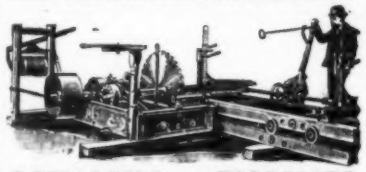

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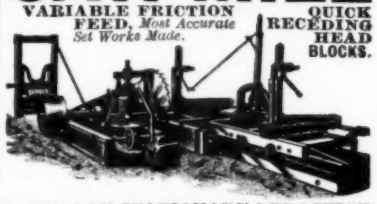

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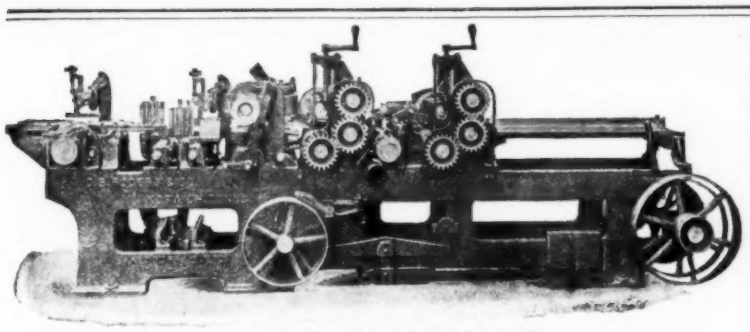

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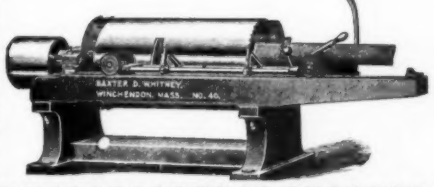

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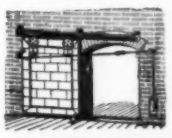

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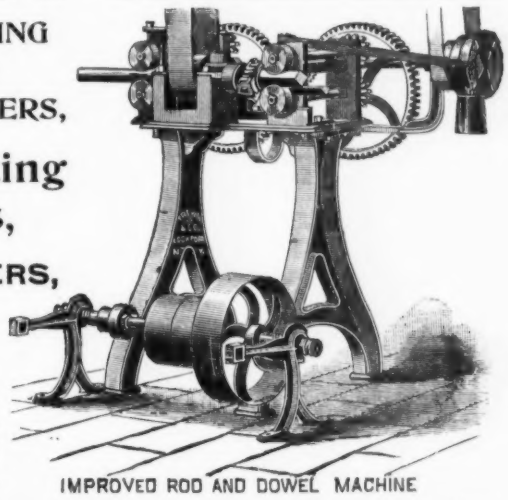

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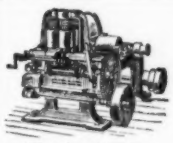

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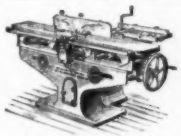

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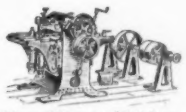

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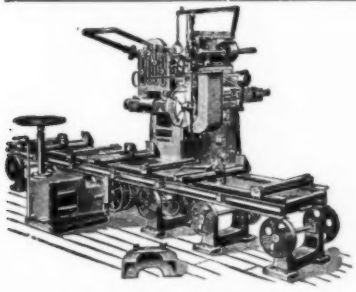

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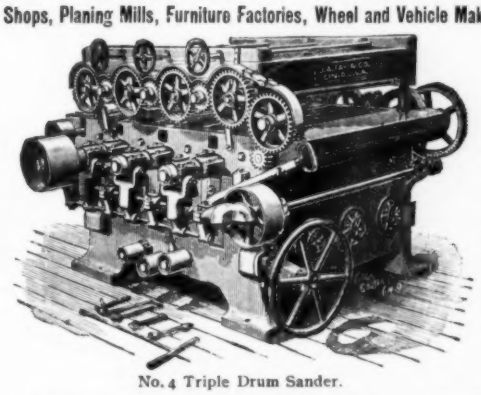

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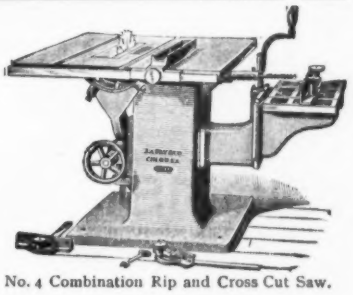

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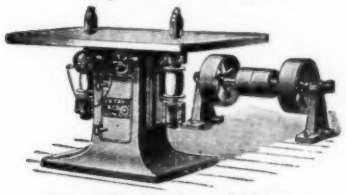

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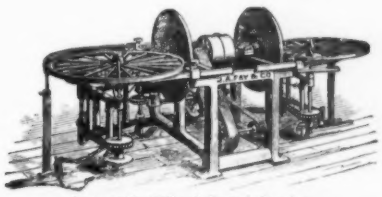

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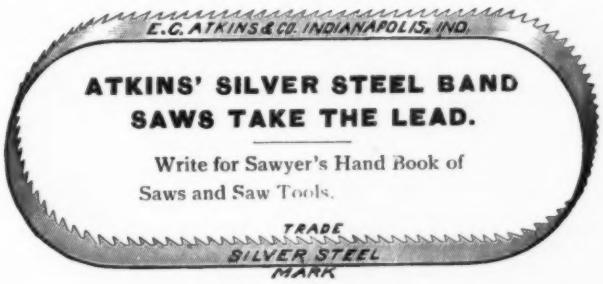

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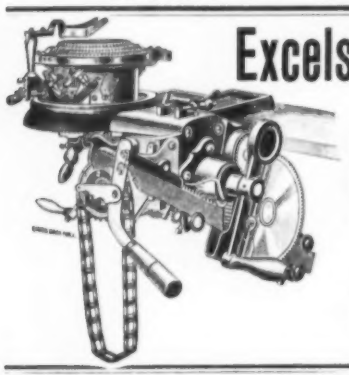

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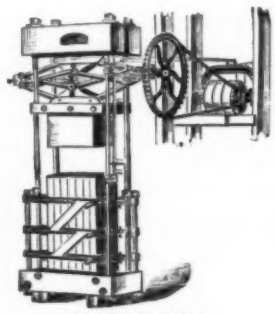

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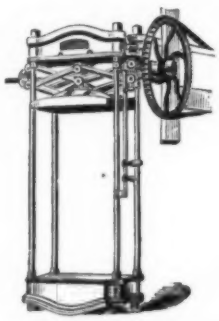

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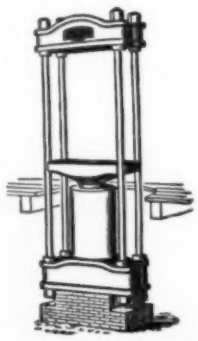

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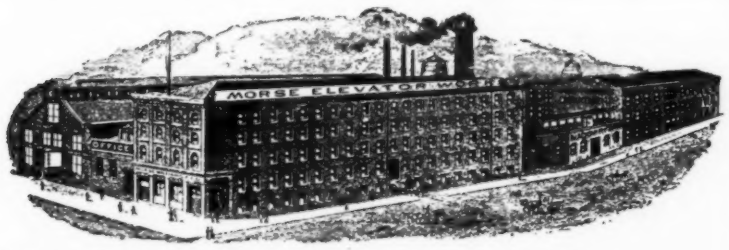

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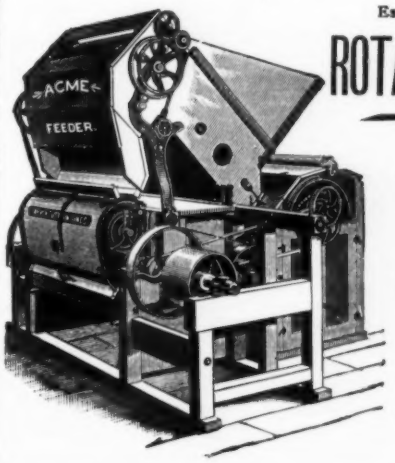

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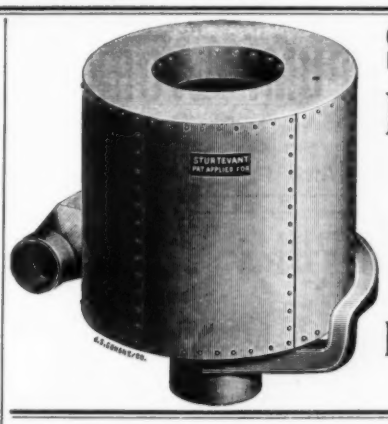

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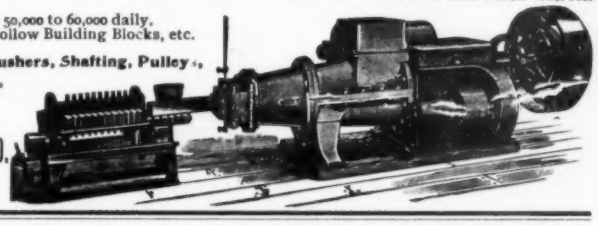

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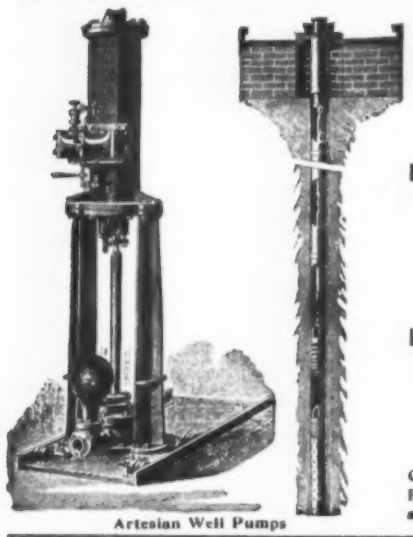

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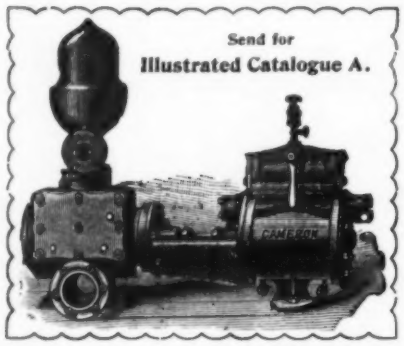

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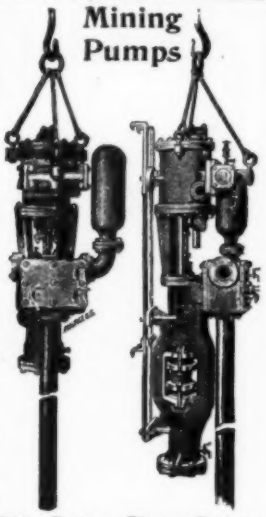

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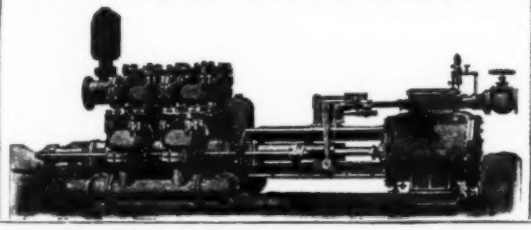

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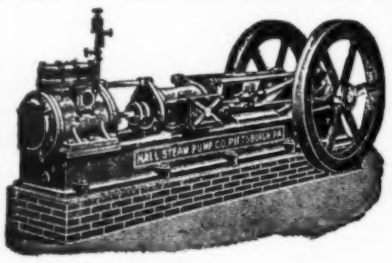

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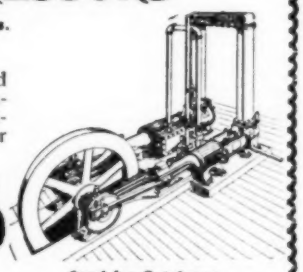

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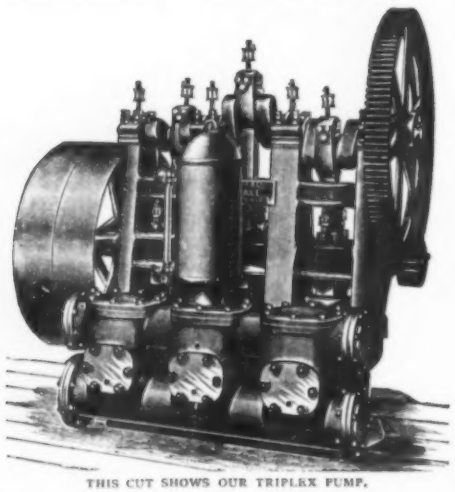

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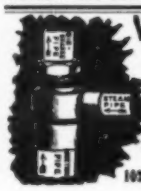

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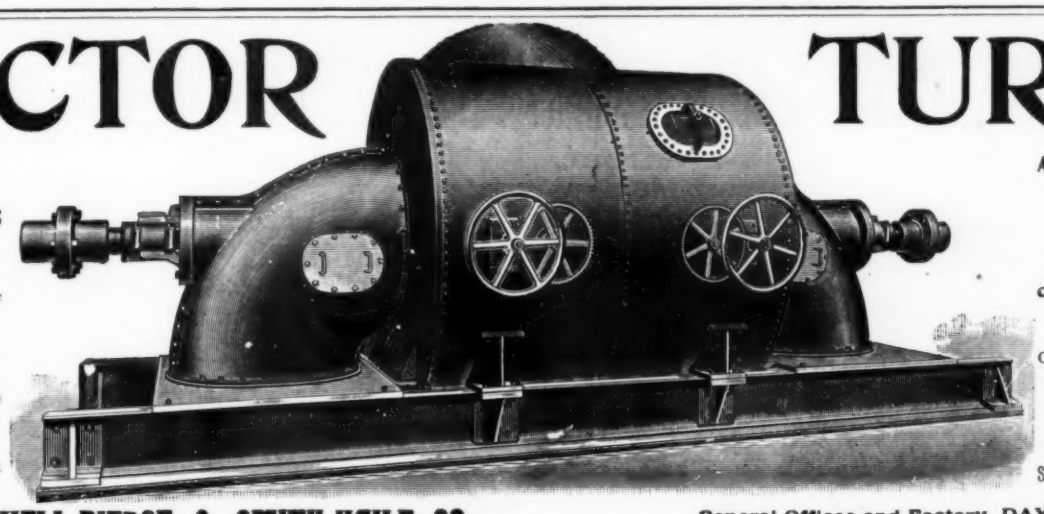

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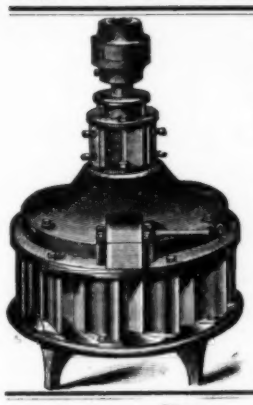

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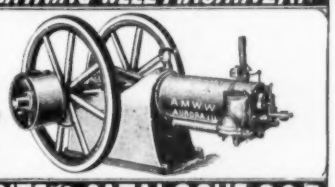

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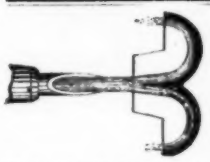

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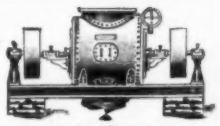

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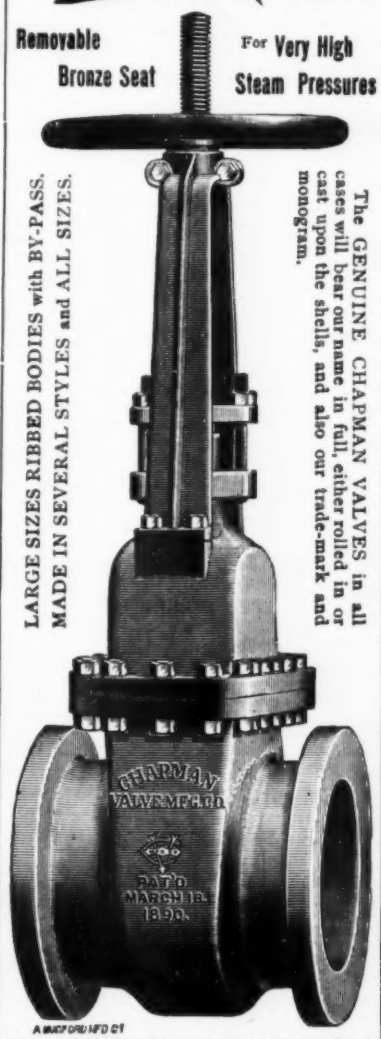

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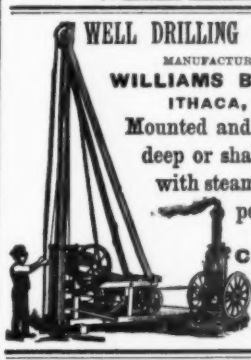

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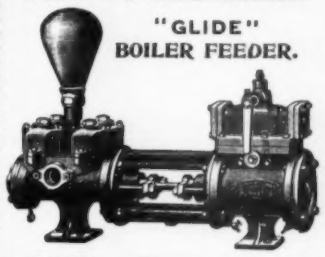

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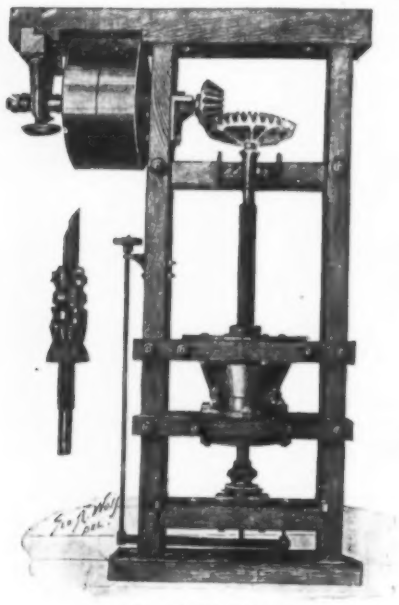

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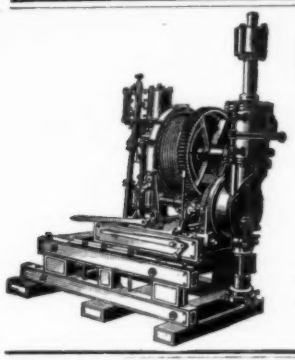

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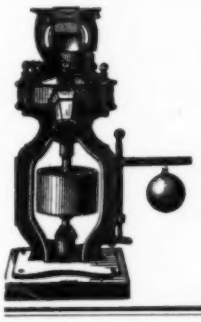

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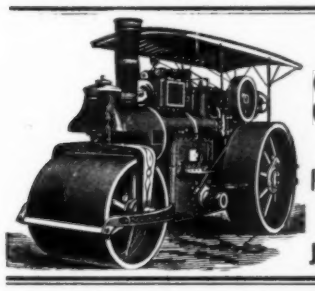

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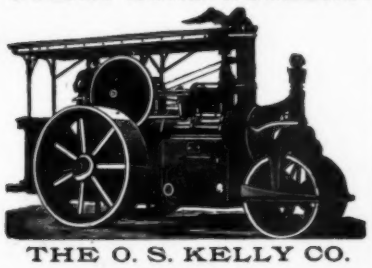

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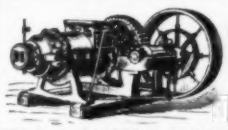

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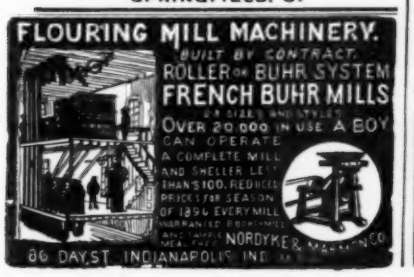

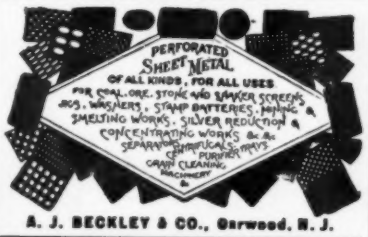

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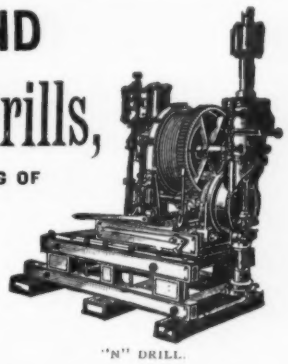

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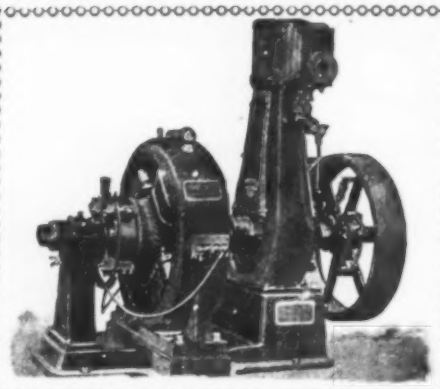

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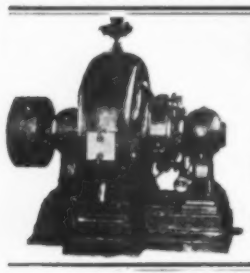

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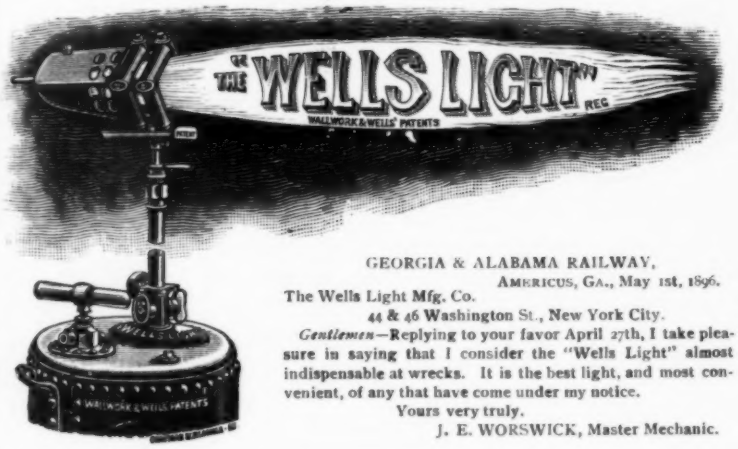

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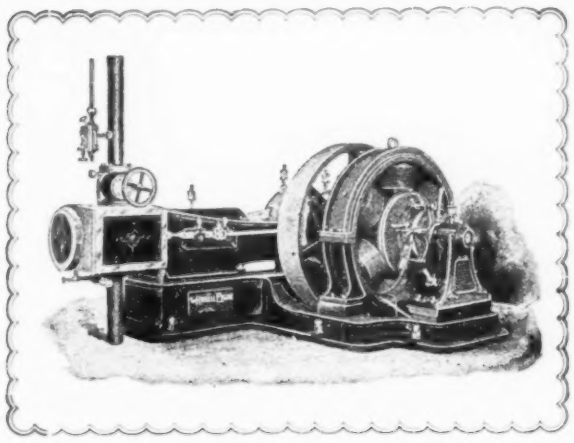

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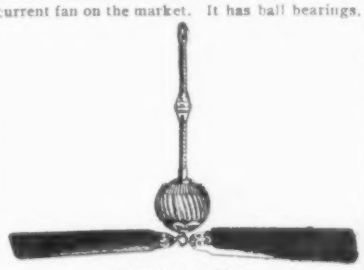

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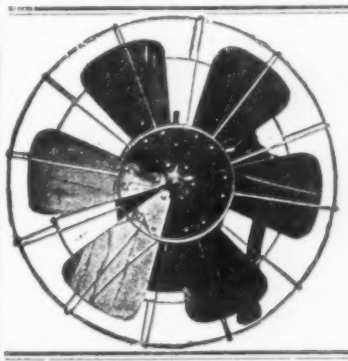

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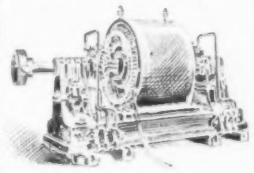

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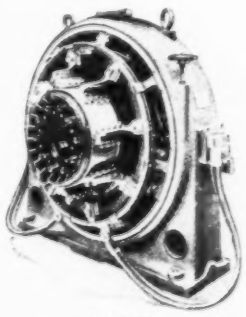

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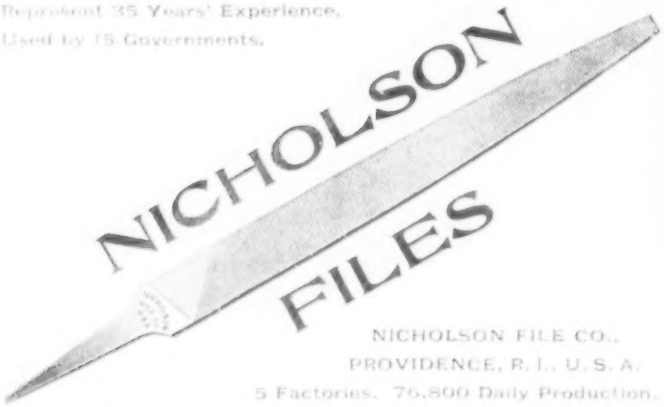

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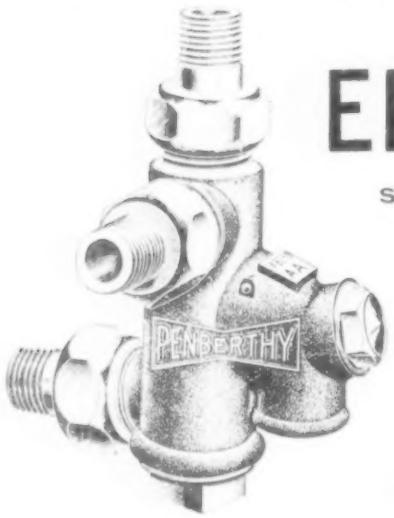

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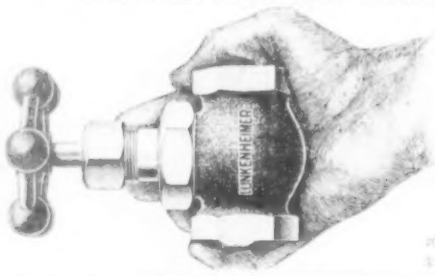

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